

FINAL REPORT NUMBER 225-MGA-04-002

SAFETY COMPLIANCE TESTING FOR FMVSS 225
“Child Restraint Anchorage Systems”

SATURN CORPORATION
2004 SATURN ION
NHTSA No. C40113

MGA RESEARCH CORPORATION
446 Executive Drive
Troy, Michigan 48083



Test Date: August 9, 2004
Report Date: September 7, 2004

FINAL REPORT

PREPARED FOR:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW
ROOM 6111 (NVS-221)
WASHINGTON, D.C. 20590

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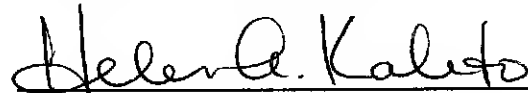
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9/27/04

FINAL REPORT ACCEPTANCE BY OVSC:

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16. Abstract Compliance testing was conducted on the subject 2004 Saturn Ion, NHTSA No. C40113, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-225T & 225L for the determination of FMVSS 225 compliance. The tests were conducted at MGA Research Corporation in Troy, Michigan on August 9, 2004. Test failures identified were as follows: NONE The data recorded indicates that the 2004 Saturn Ion tested appears to comply with the requirements for FMVSS 225, set forth by the National Highway Traffic Safety Administration.			
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1.0 PURPOSE AND PROCEDURE

PURPOSE

The child restraint anchorage test results presented in this report are part of the Federal Motor Vehicle Safety Standard (FMVSS) No. 225 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-02-D-11043. The purpose of the testing was to determine if the subject vehicle, a 2004 Saturn Ion, NHTSA No. C40113 meets the performance requirements of FMVSS No. 225, "Child Restraint Anchorage Systems."

PROCEDURE

This testing was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedures, TP-225T (5/3/01) and TP-225L (6/11/01), and MGA's Laboratory Test Procedure, MGATP225GOV (3/20/03).

The front occupant compartment consisted of two (2) adjustable outboard bucket seats and the rear occupant compartment consisted of a three-passenger 60/40 seat. Each rear outboard seating position was equipped with a child restraint anchorage system (one tether and two lower anchors). The center-to-center spacing between the rear outboard lower anchorages was approximately 710 mm. Each rear occupant seating position was tested with the SFAD II fixture.

2.0 COMPLIANCE TEST AND DATA SUMMARY

TEST SUMMARY

The testing was conducted at MGA, Troy, Michigan on August 9, 2004.

Based on the test results, the 2004 Saturn Ion appears to comply with the performance requirements of FMVSS No. 225 for these tests.

The SFAD II at the rear left outboard seating position sustained a maximum force of 11,033 N and held the required load for 3 seconds. The total displacement from point "X" on SFAD II for the rear left outboard seating position was 73 mm. The SFAD II at the rear right outboard seating position sustained a maximum force of 11,032 N and held the required load for 3 seconds. The total displacement from point "X" on SFAD II for the rear right outboard seating position was 66 mm. The SFAD II at the rear center seating position sustained a maximum force of 15,003 N and held the required load for 3 seconds.

DATA SUMMARY

Strength and displacement summary data are provided below, and data for the configuration and the location of each child restraint anchorage system are provided in Section 5.0. Photographs are found in Section 6.0 and test plots are found in Section 7.0.

Table I. Summary Data for Strength and Displacement

MGA Test #	Fixture Type	Seating Position	Max. Load (N)	Displacement (mm)
SC4346	SFAD II	Rear Left	11,033	73
		Rear Right	11,032	66
SC4347	SFAD II	Rear Center	15,003	N/A

N/A indicates that the displacement criteria does not apply to the test.

3.0 TEST VEHICLE INFORMATION

Table 2. General Test and Vehicle Parameter Data

VEH. MOD YR/MAKE/MODEL/BODY	2004 Saturn Ion
VEH. NHTSA NO.	C40113
VIN	1G8AF52F54Z155463
COLOR	Red
VEH. BUILD DATE	11/03
TEST DATE	August 9, 2004
TEST LABORATORY	MGA Research Corporation
OBSERVERS	Melanie Schick, Brad Reaume, Kenney Godfrey

GENERAL INFORMATION:

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Saturn Corporation

Date of Manufacture: 11/03; VIN: 1G8AF52F54Z155463

GVWR: 1661 kg; GAWR FRONT: 850 kg

GAWR REAR: 811 kg

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 210 kPa REAR: 210 kPa

Recommended Tire Size: P185/70R14 Load Range: 408 kg

Recommended Cold Tire Pressure:

FRONT: 210 kPa REAR: 210 kPa

Size of Tire on Test Vehicle: P185/70R14

Type of Spare Tire: Standard: T115/70R14

VEHICLE CAPACITY DATA:

Type of Front Seats: Bench ____; Bucket X; Split Bench ____

Number of Occupants: Front 2; Rear 3; TOTAL 5

4.0 TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

MGA Research Corporation 446 Executive Drive Troy, Michigan 48083	
Test Equipment Used for Testing	Calibration Due Date
MGA Hydraulic Test Frame	N/A
Two (2) Load Cell 3,000 lb Capability	S/N 249 (10/26/04), S/N 125 (10/26/04)
Two (2) String Potentiometer	Calibrated at each use (S/N 20420, 20757)
Hydraulic Pump	N/A
MGA CRF Fixture	N/A
MGA SFAD2	N/A
MGA 2-Dimensional Template	N/A
Linear Scale	S/N 358 (12/17/04)
MGA Data Acquisition System	N/A
One (1) Hydraulic Cylinder	N/A
Digital Calipers	S/N MGA00053 (9/2/04)
Force Gauge	S/N MGA00058 (10/30/04)
Inclinometer (Digital)	S/N MGA00046 (8/12/04)

5.0 DATA

Table 3. Child Restraint Tether Anchorage Configuration (Data Sheet 1)

Seating Position		Permit the attachment of a tether hook	Accessible without the need for any tool other than a screwdriver or coin	Ready for use without the need for any tools	Sealed to prevent the entry of exhaust fumes
Front Row		N/A	N/A	N/A	N/A
Second Row	LH	Yes	Yes	Yes	Yes
	Ctr.	Yes	Yes	Yes	Yes
	RH	Yes	Yes	Yes	Yes
Third Row		N/A	N/A	N/A	N/A

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225L & 225T.

REMARKS: NONE.

Table 4. Child Restraint Lower Anchorage Configuration (Data Sheet 2)

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION				
		FRONT ROW	SECOND ROW		THIRD ROW
			I/B	O/B	
Above anchorage, permanently marked with a circle not less than 13 mm in Dia.; and whose color contrasts with its background; and its center is not less than 50 mm and not more than 75 mm above the bar, and in the vertical longitudinal plane that passes through the center of the bar.	LH	N/A	No		N/A
	Ctr		No		
	RH		No		
Each of the bars is visible, without the compression of the seat cushion or seat back, when the bar is viewed, in a vertical longitudinal plane passing through the center of the bar, along a line marking an upward 30 degree angle with a horizontal plane.	LH	N/A	Yes		N/A
	Ctr				
	RH				
Diameter of the bar (mm)	LH	N/A	5.96	5.93	N/A
	Ctr		5.97	5.96	
	RH		5.95	5.97	
Inspect if the bars are straight, horizontal and transverse	LH	N/A	Yes		N/A
	Ctr		Yes		
	RH		Yes		
Optional Marking: At least one anchorage bar (when deployed for use, if storable anchorages), one guidance fixture, or one seat marking is visible.	LH	N/A	N/A		N/A
	Ctr				
	RH				
Optional Marking: If guidance fixtures are used, the fixture(s) must be installed.	LH	N/A	N/A		N/A
	Ctr				
	RH				
Measure the distance between Point “Z” of the CRF and the center of the anchorage bar (mm)	LH	N/A	30		N/A
	Ctr		50		
	RH		29		
Measure the distance between the SRP to the center of the anchorage bar (mm)	LH	N/A	165		N/A
	Ctr		175		
	RH		165		

Table 4. Child Restraint Lower Anchorage Configuration (Data Sheet 2) (continued)

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION				
		FRONT ROW	SECOND ROW		THIRD ROW
			I/B	O/B	
Inspect if the centroidal longitudinal axes are collinear within 5 degrees	LH	N/A	Yes		N/A
	Ctr		Yes		
	RH		Yes		
Inspect if the inside surface of the bar that is straight and horizontal section of the bars, and determine they are not less than 25 mm, but not more than 40 mm in length (mm).	LH	N/A	28	28	N/A
	Ctr		28	28	
	RH		28	28	
Inspect if the bars can be connected to, over their entire inside length by the connectors of child restraint system.	LH	N/A	Yes		N/A
	Ctr		Yes		
	RH		Yes		
Measure the distance between the center of the length of one bar to the center of the length of the other bar. The requirement is 280 mm ± 1 mm (mm).	LH	N/A	280		N/A
	Ctr		280		
	RH		280		
Inspect if the bars are an integral and permanent part of the vehicle.	LH	N/A	Yes		N/A
	Ctr		Yes		
	RH		Yes		
Inspect if the bars are rigidly attached to the vehicle. If feasible, hold the bar firmly with two fingers and gently pull.	LH	N/A	Yes		N/A
	Ctr		Yes		
	RH		Yes		

PITCH, YAW, & ROLL INFORMATION

SEAT POSITION	PITCH (deg)	YAW (deg)	ROLL (deg)
Rear Left	15	No Data	0.3
Rear Center	16	No Data	0.5
Rear Right	15	No Data	0.5

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225L & 225T.

REMARKS: NONE

Table 5. Tether Location and Dimensional Measurements (Data Sheet 3)

SEAT POSITION FOR TETHER		TETHER ANCHORAGE LOCATION Located in the required zone?
Front Row	LH	N/A
	Ctr.	
	RH	
Second Row	LH	Yes
	Ctr.	Yes
	RH	Yes
Third Row	LH	N/A
	Ctr.	
	RH	

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225L & 225T.

REMARKS: NONE

Table 6. Tether Anchorage Static Loading and Displacement (Data Sheet 5)

SEAT POSITION		Seat, Seat Back, & Head Restraint Positions			Angle (deg)	Initial Location (mm)	Onset Rate (N/sec.)	Force Applied (N)	Max. Load (N)	Final Location (mm)	Horizontal Displ. (mm)
		Seat	Seat Back	Is There a Head Restraint ?							
Front Row	LH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Ctr.										
	RH										
Second Row	LH	Fixed	Fixed	Yes	10	32	387	10,950	11,033*	105	73
	Ctr.	Fixed	Fixed	No	10	N/A	535	14,950	15,003*	N/A	N/A
	RH	Fixed	Fixed	Yes	10	35	387	10,950	11,032*	101	66
Third Row	LH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Ctr.										
	RH										

Note: (1) AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225L & 225T.

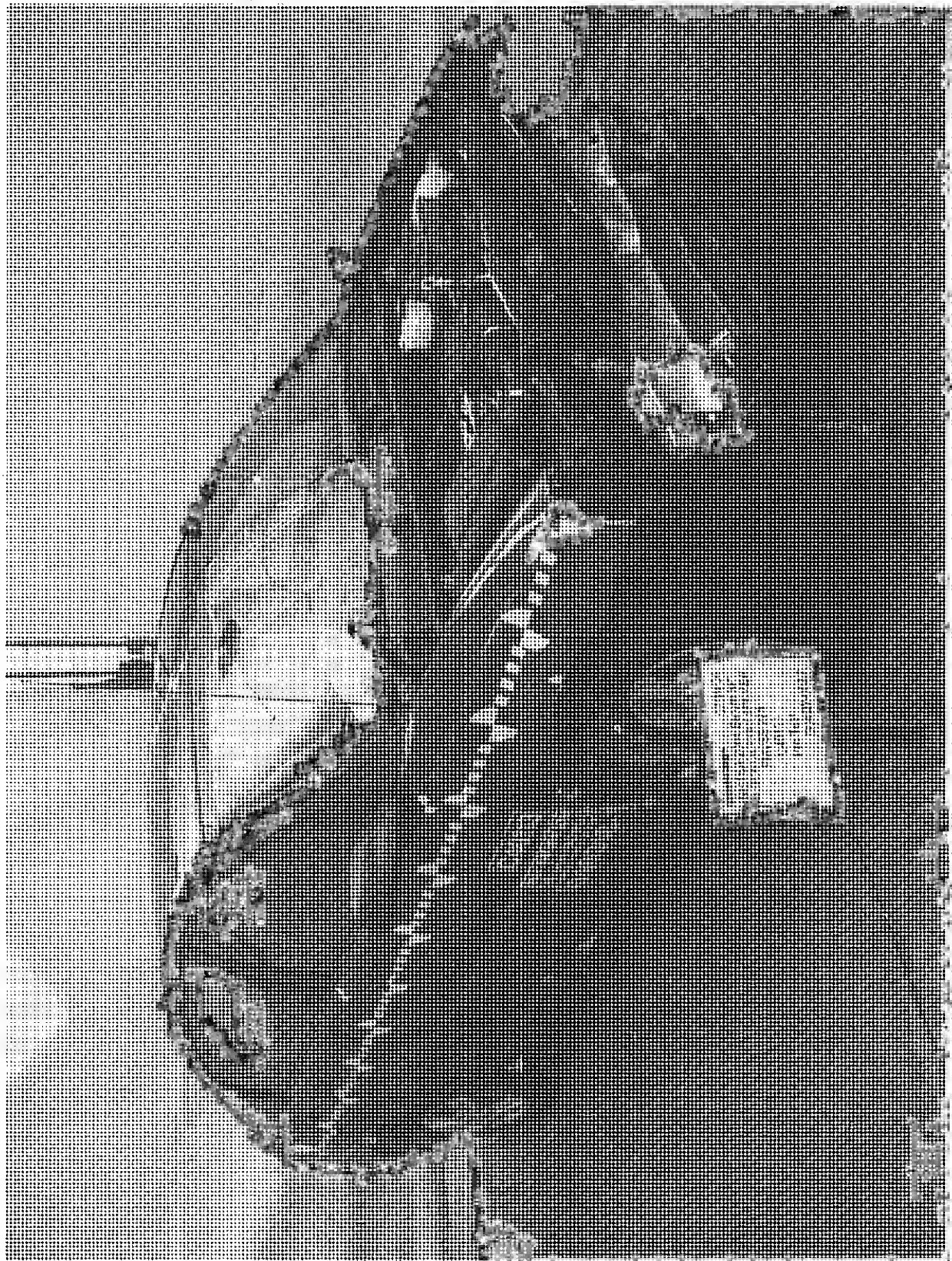
REMARKS: *Applied force exceeded force specified in the test procedure.

6.0 PHOTOGRAPHS

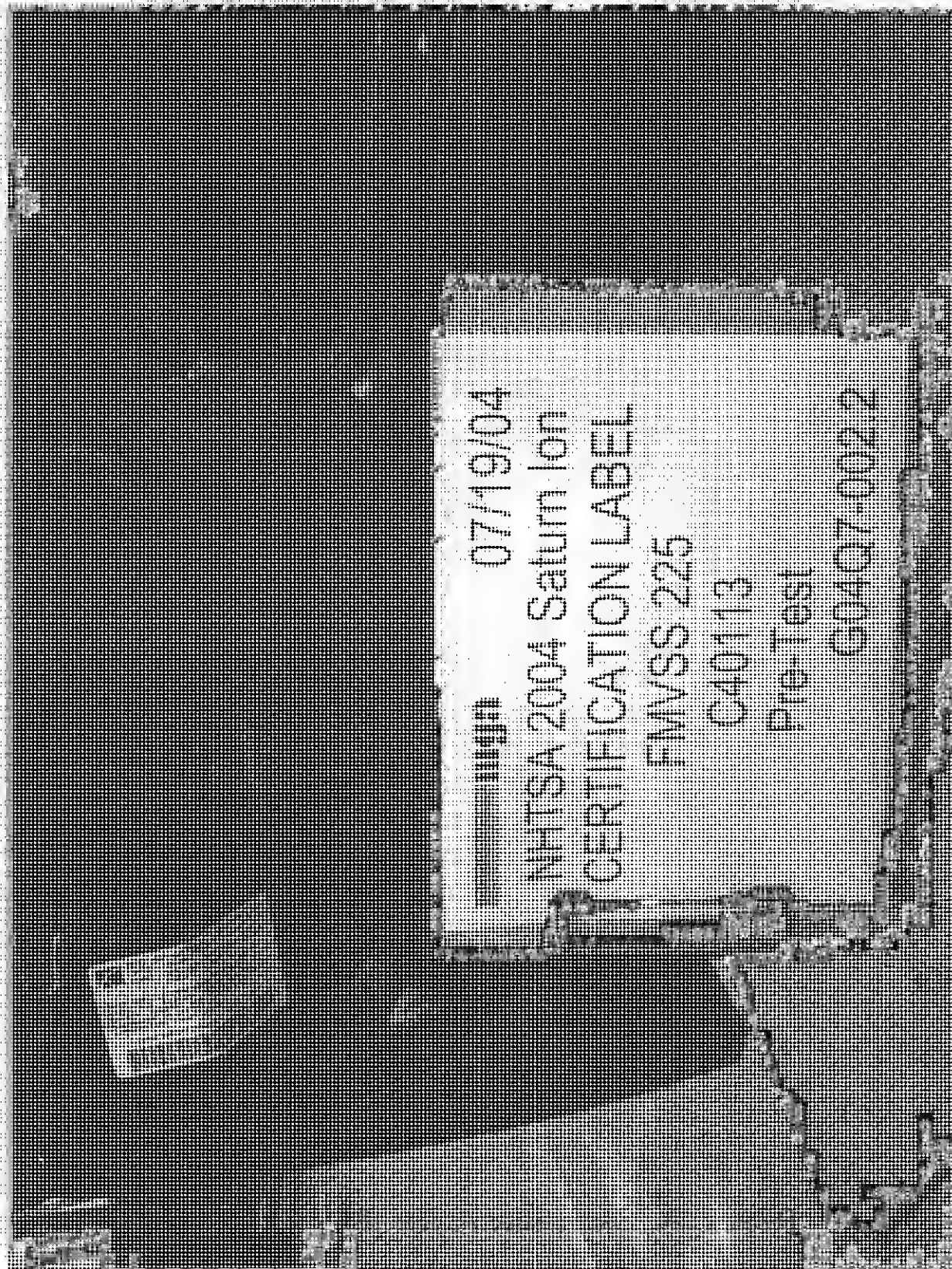
6.1 Full rear view



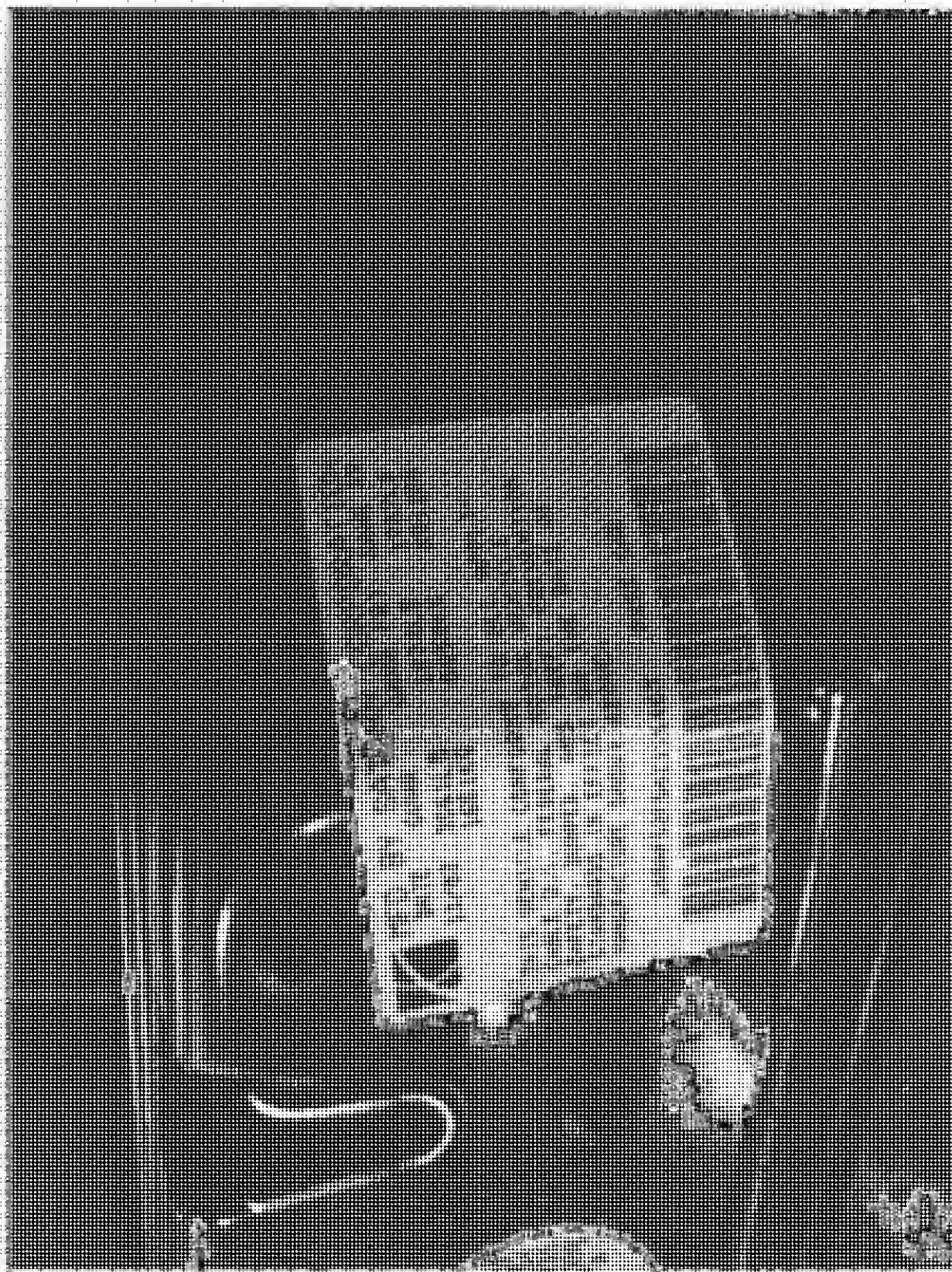
6.2 ¼ Front right view



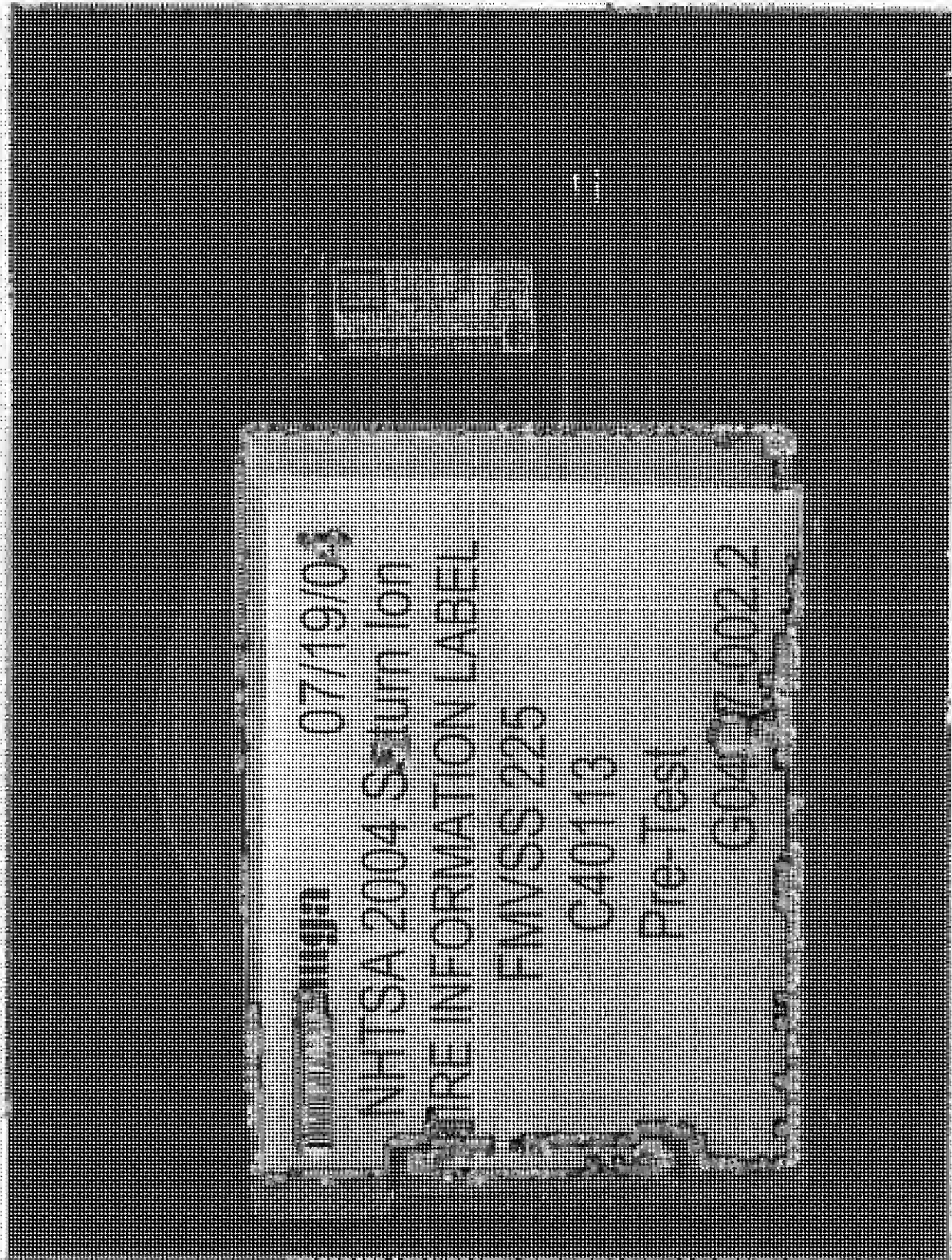
- 6.3 Test vehicle's certification label
6.3.1 certification label



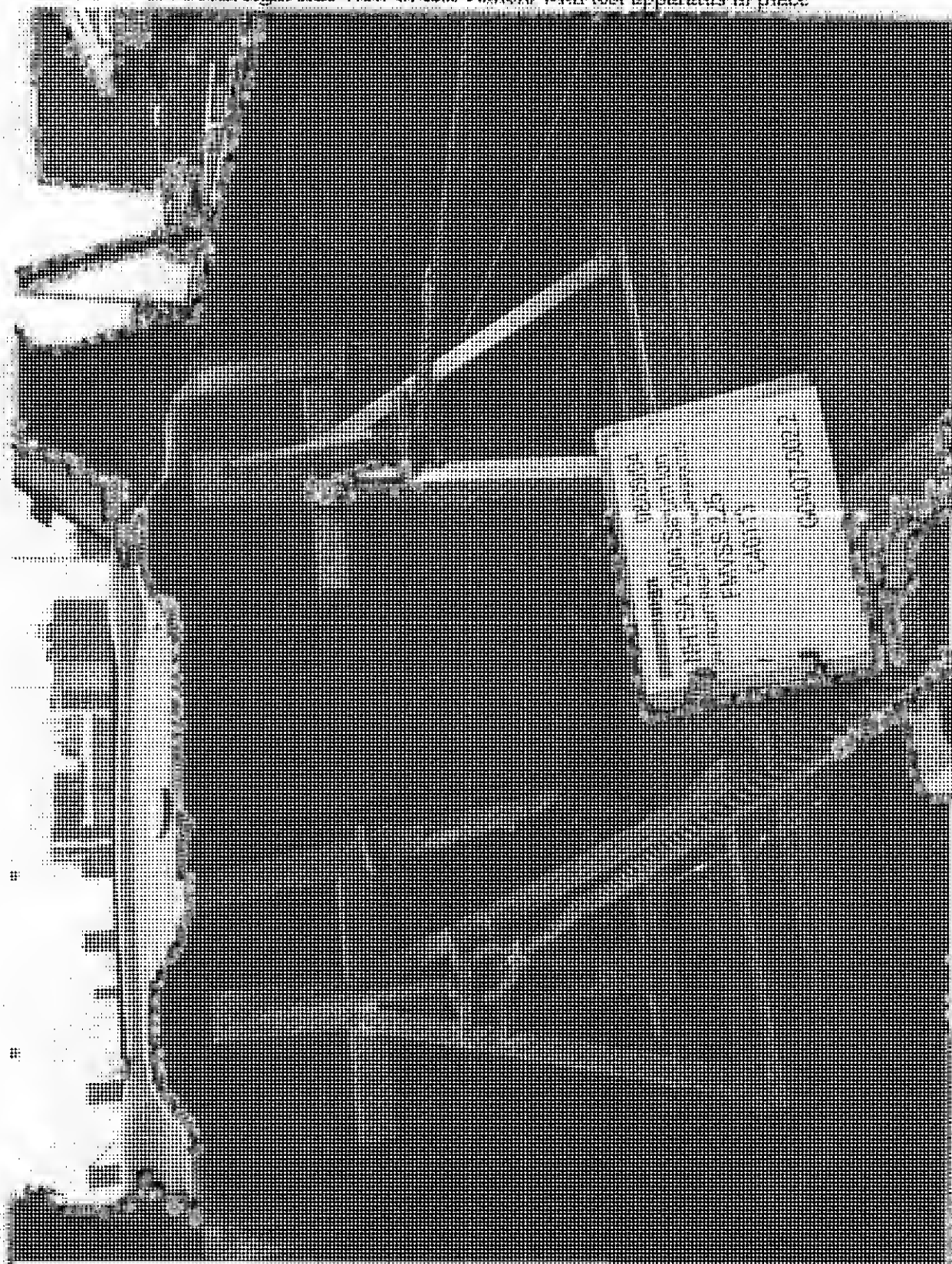
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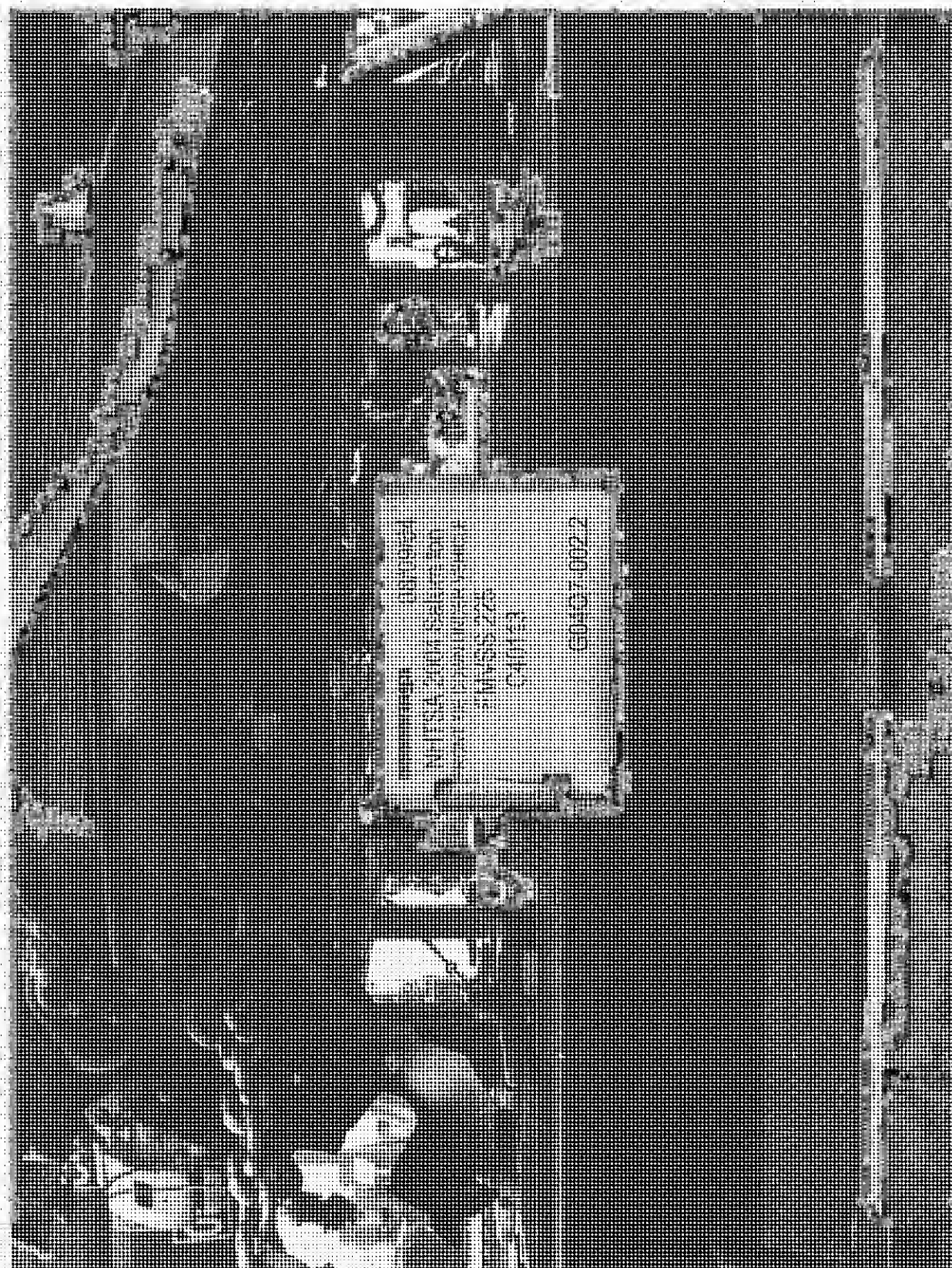
6.4 Test vehicle's tire information placard
6.4.1 Tire information placard



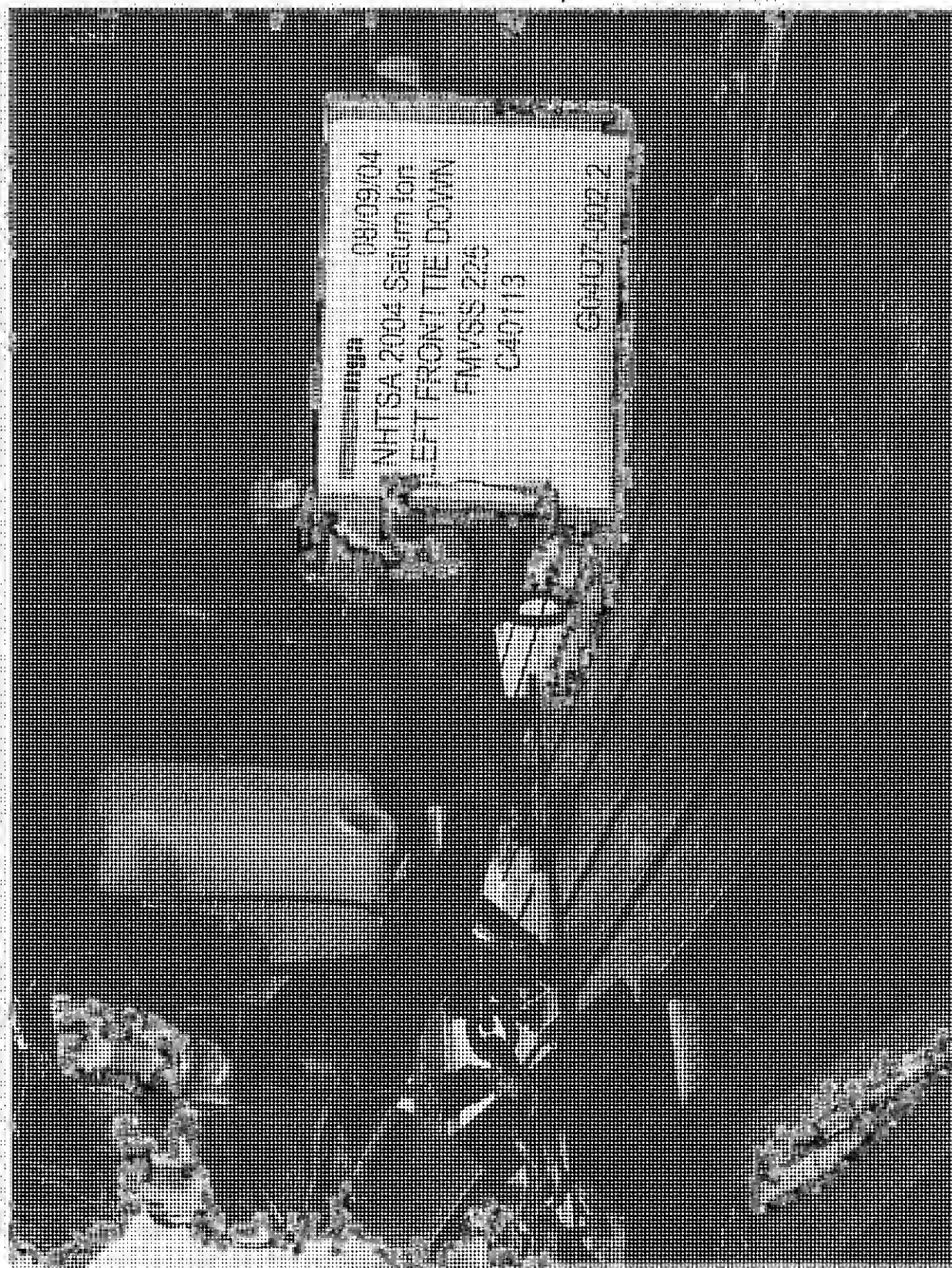
6.5 3/4 Front right side view of test vehicle with test apparatus in place



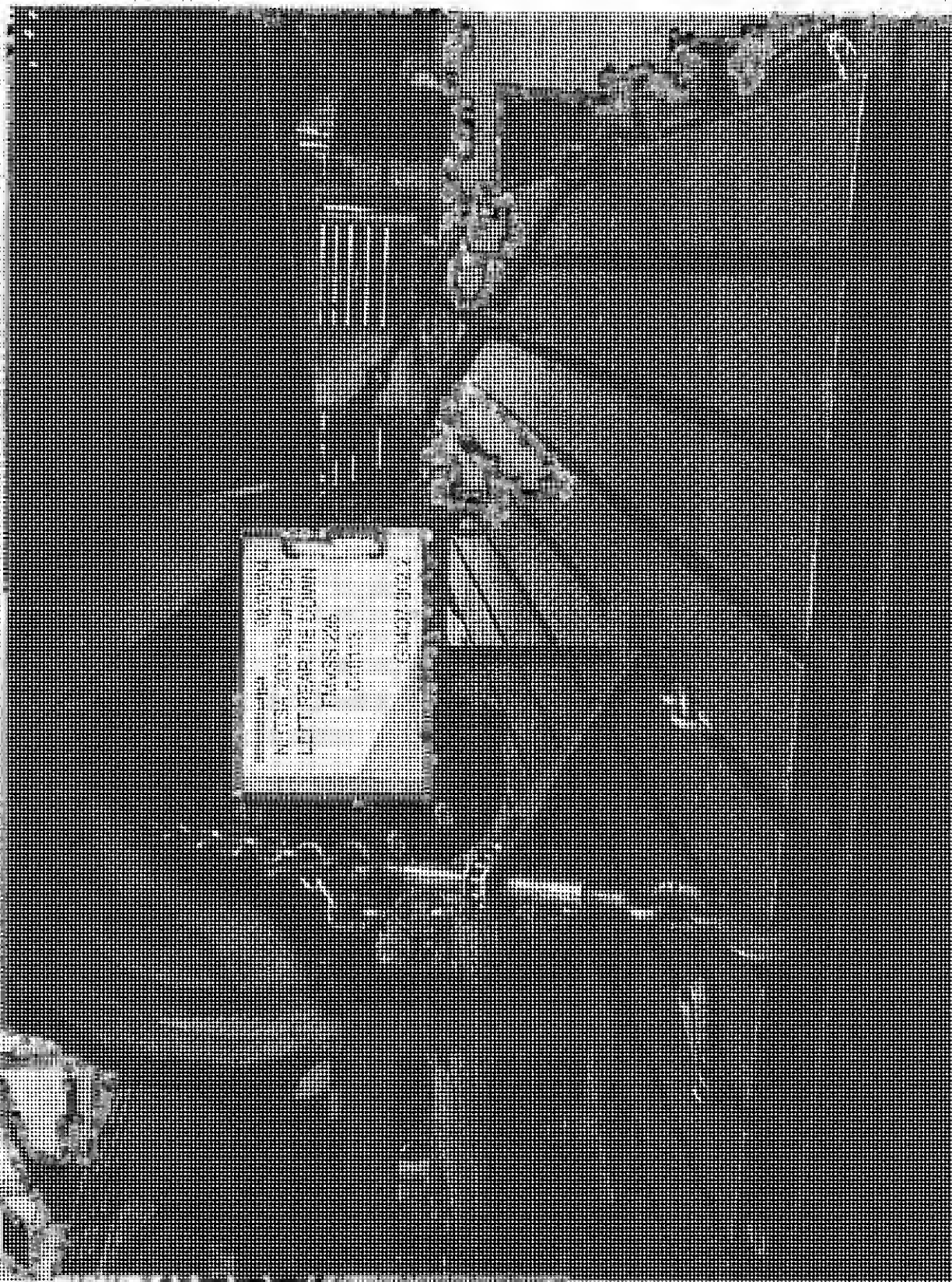
- 6.6 Vehicle tie down at each tie down location
6.6.1 front under vehicle



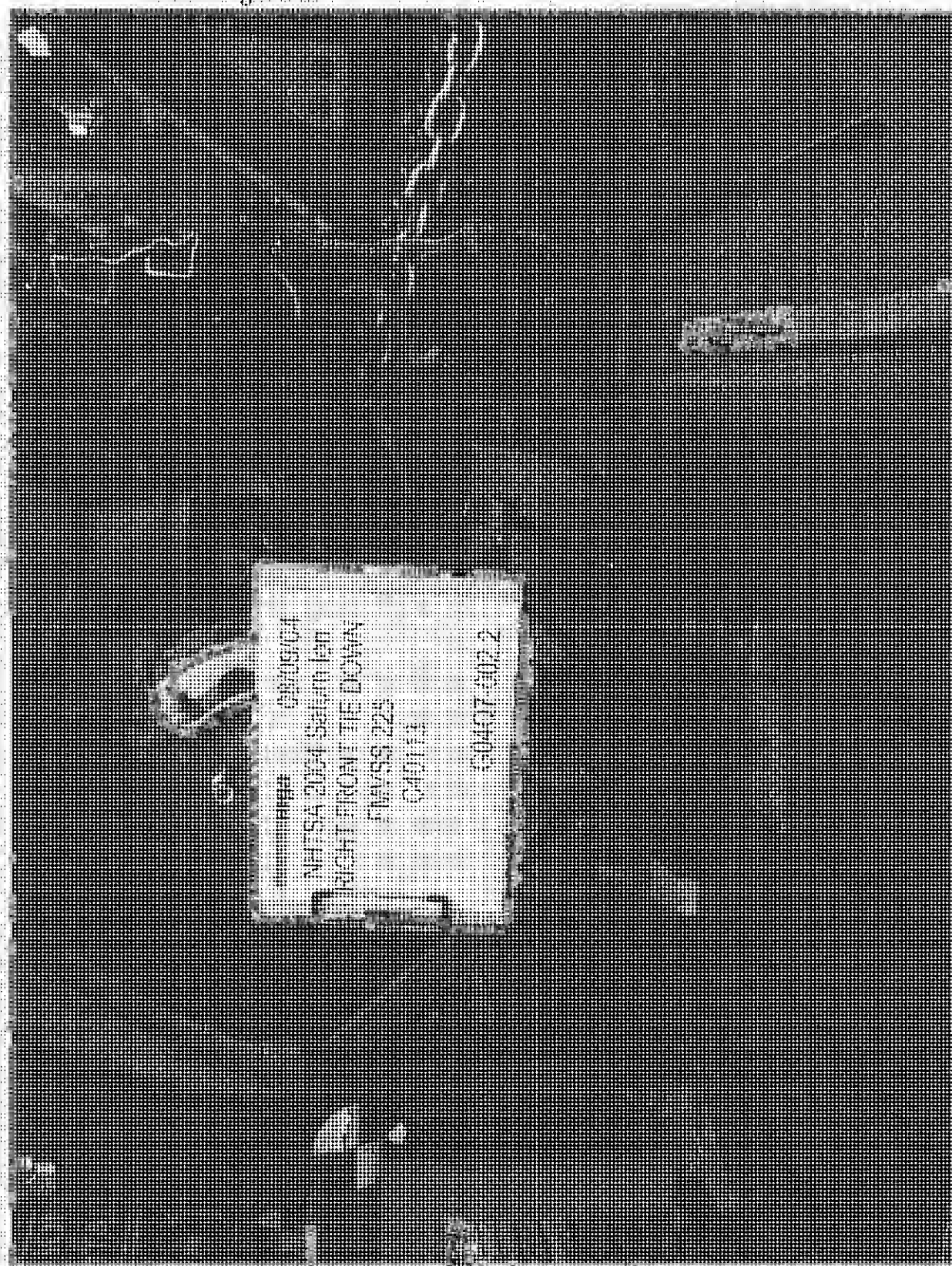
6.6.3 left front



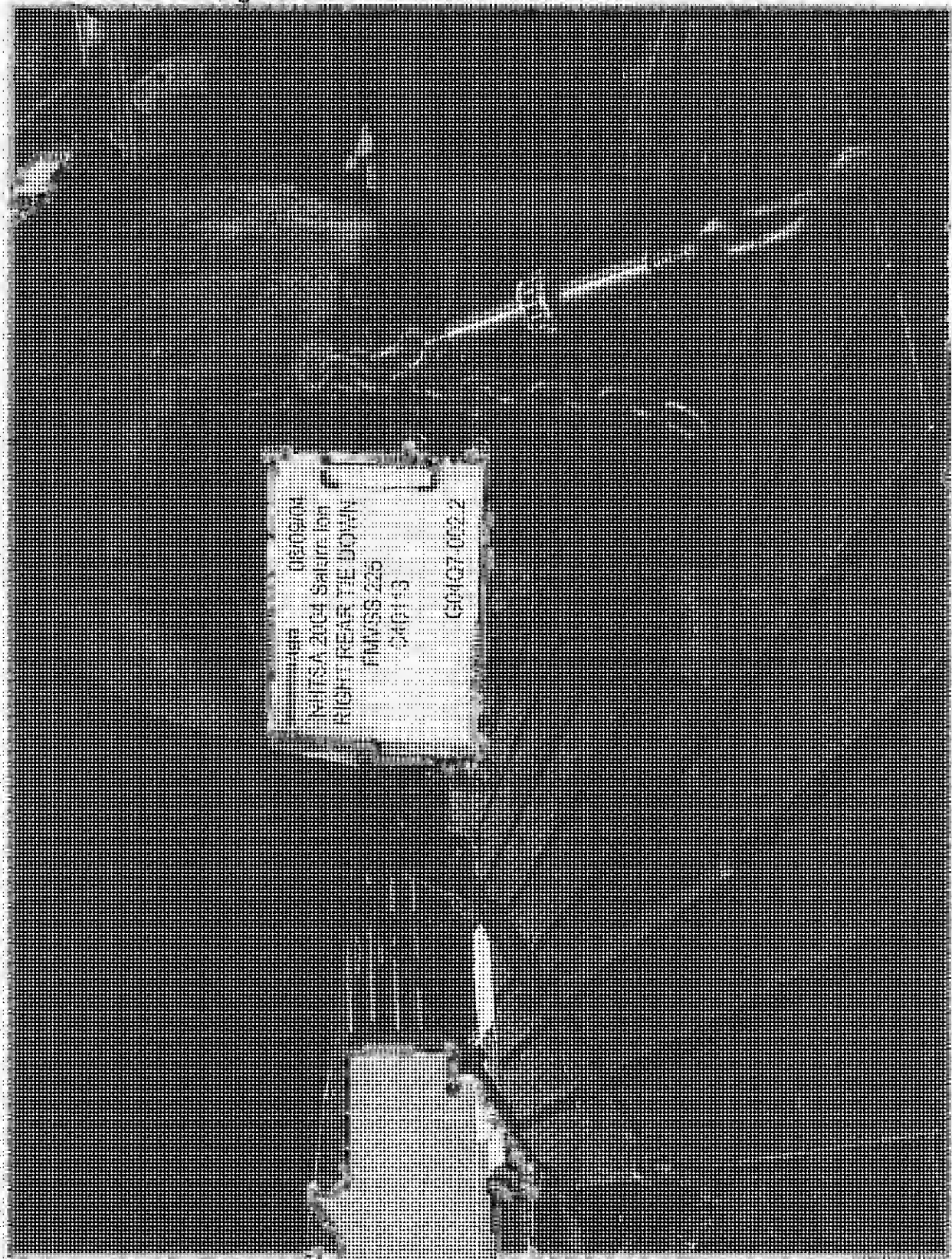
6.6.3 left rear



6.6.4 Right front



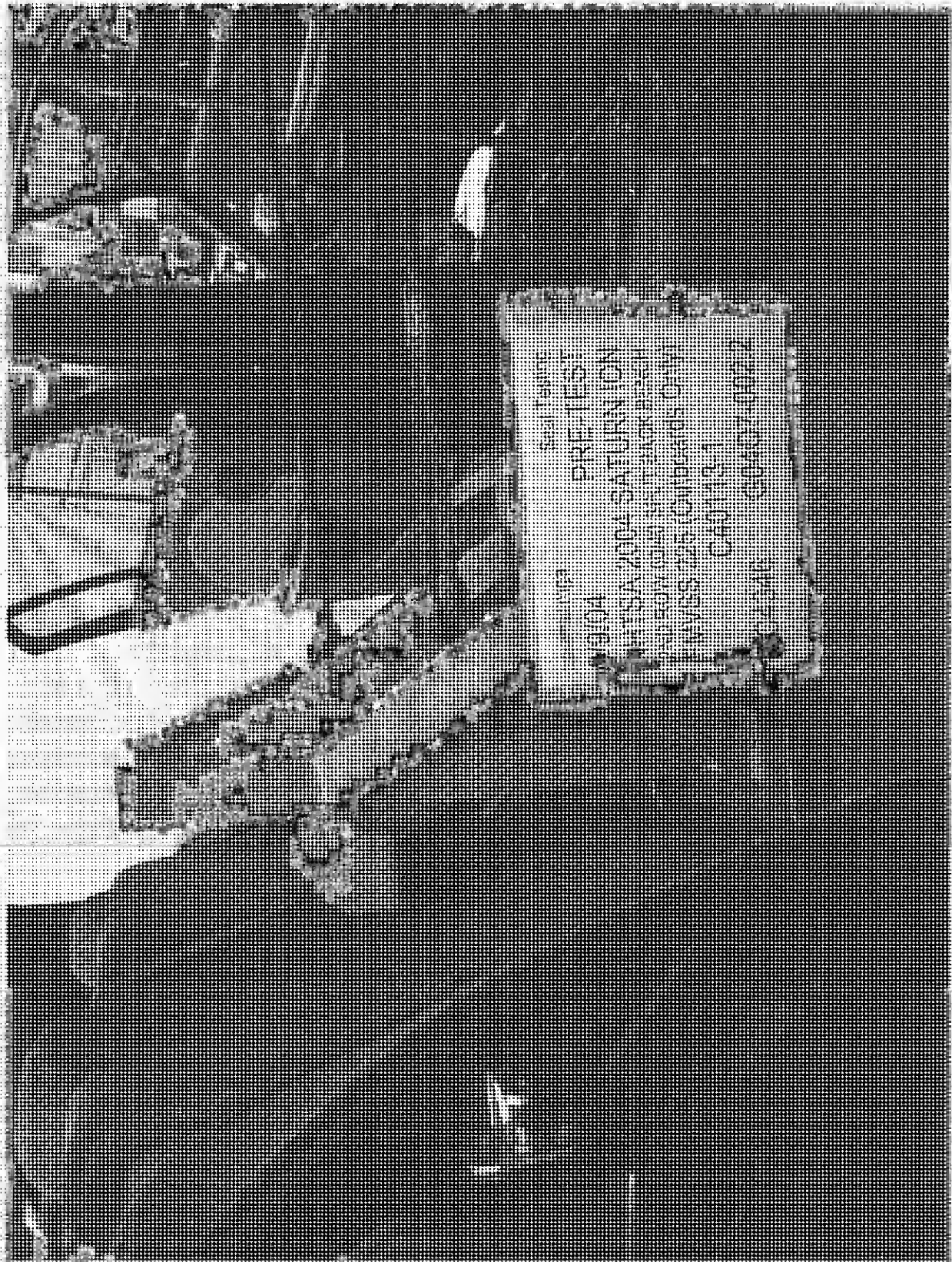
6.6.5 right rear



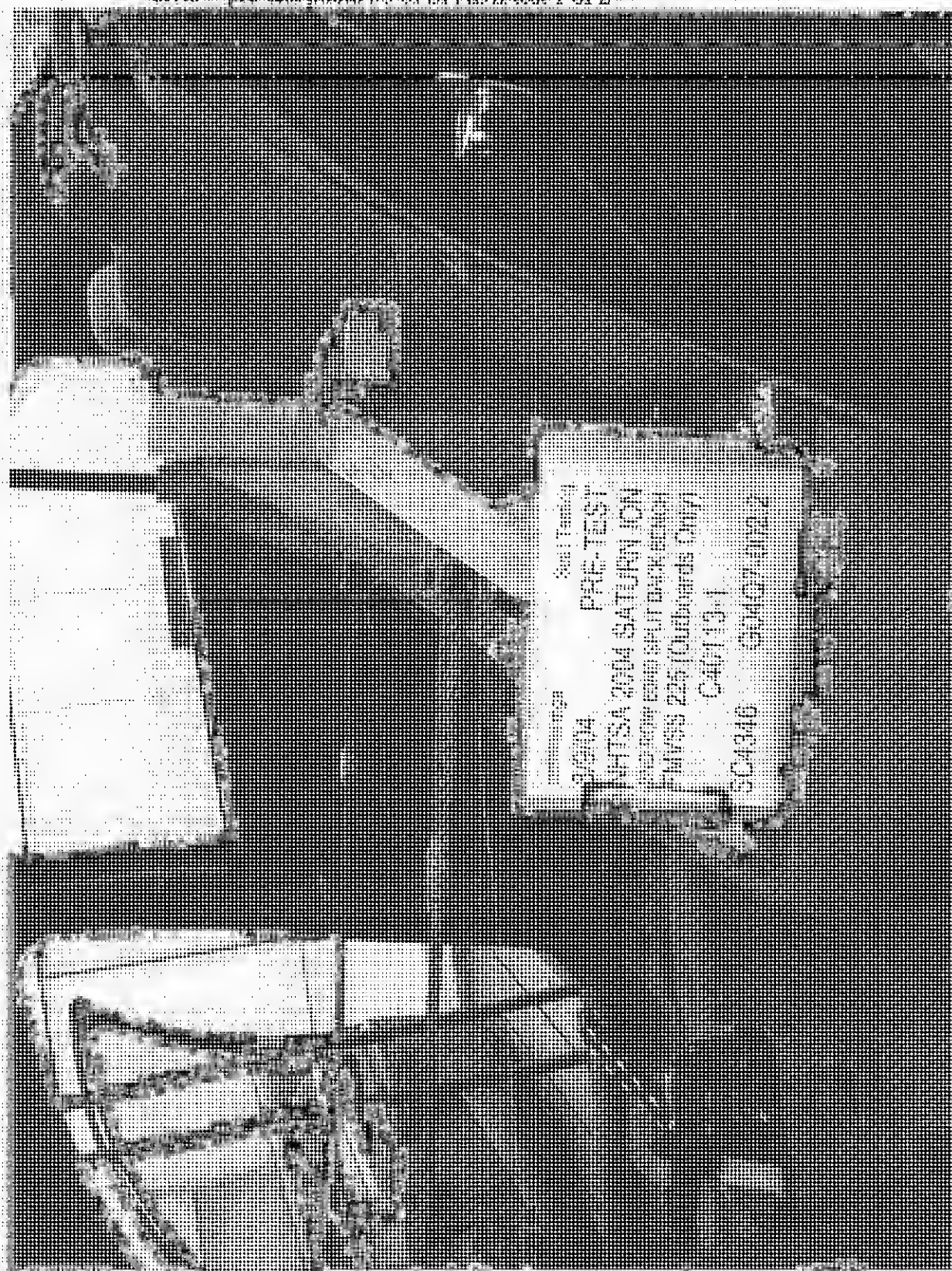
- 6.7 Pre-test views of each child restraint anchorage system installed in the vehicle
6.7.1 pre-test photo #1 of SFADII test 1 of 2



6.7.2 pre-test photo #2 of SPADII test 1 of 2



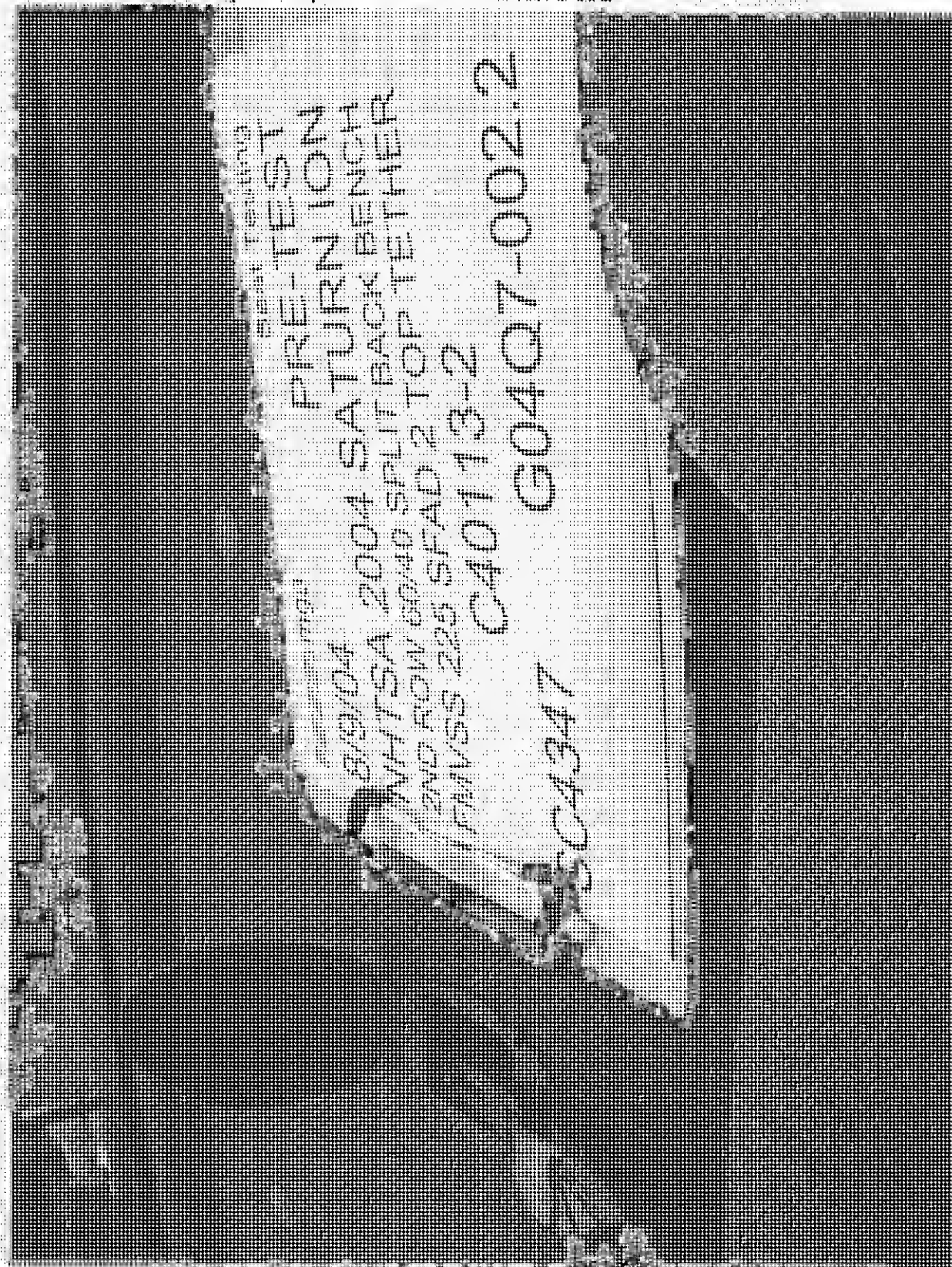
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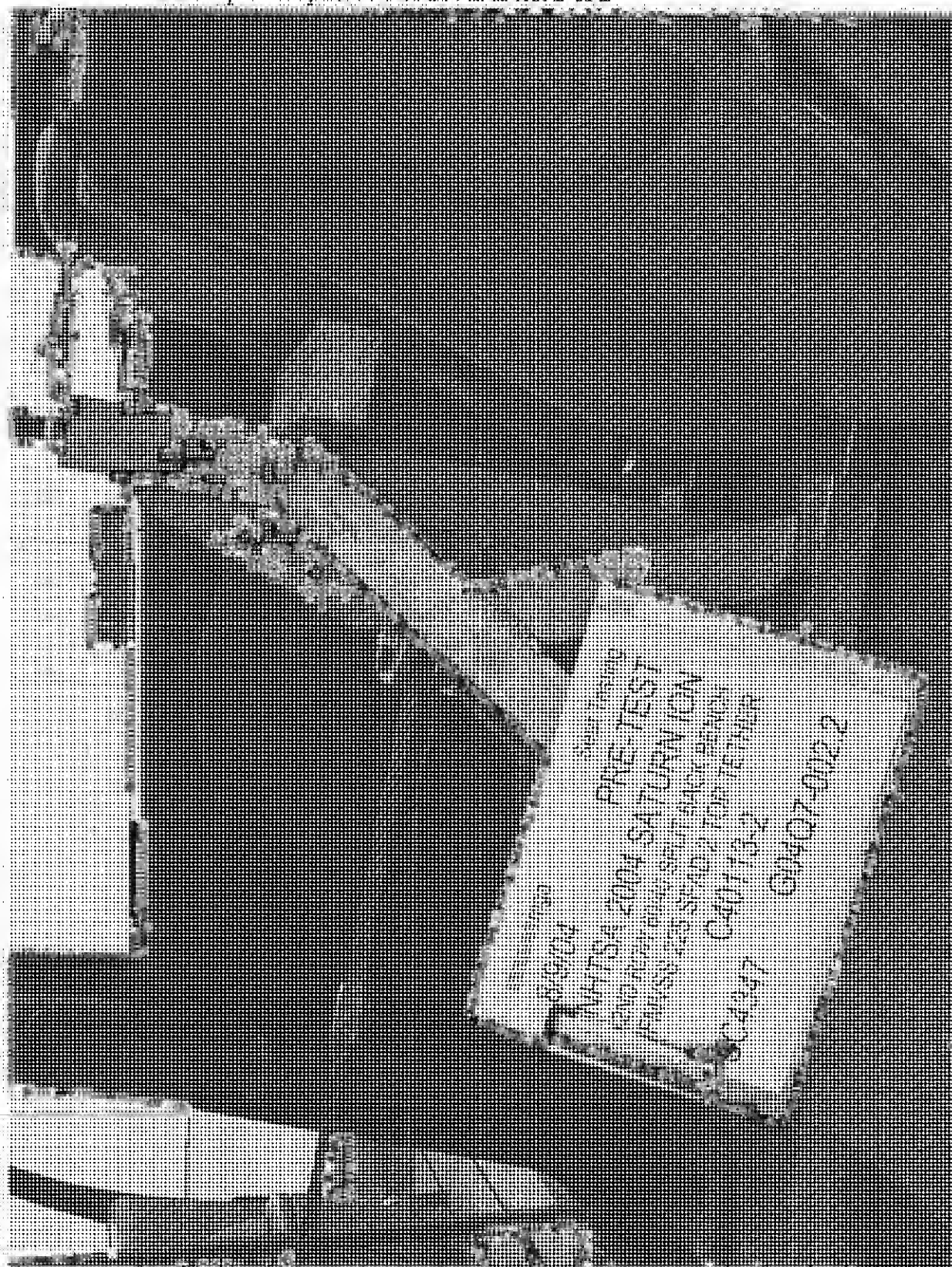
6.7.4 pre-test photo #4 of SFADH test 2 of 2



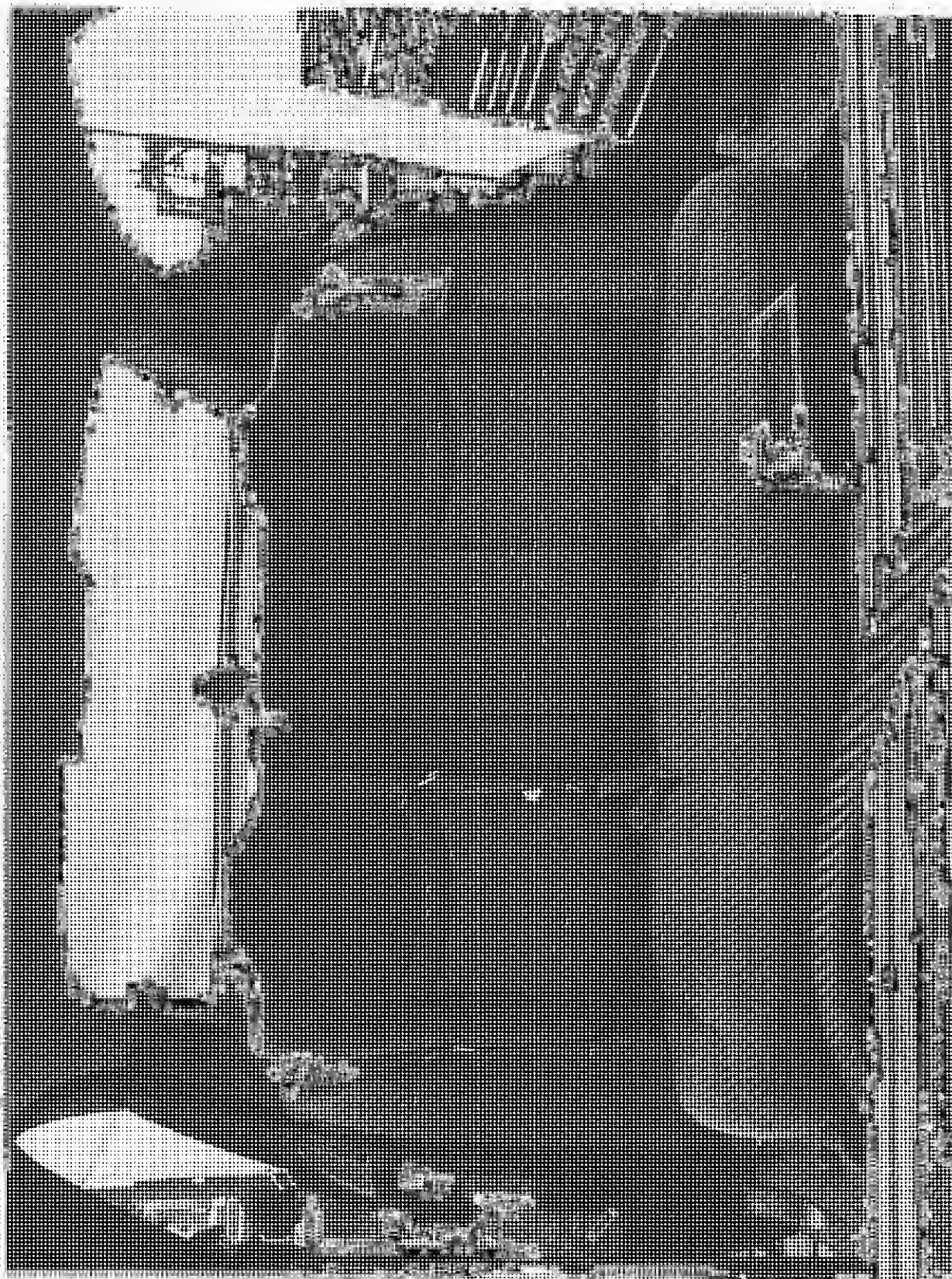
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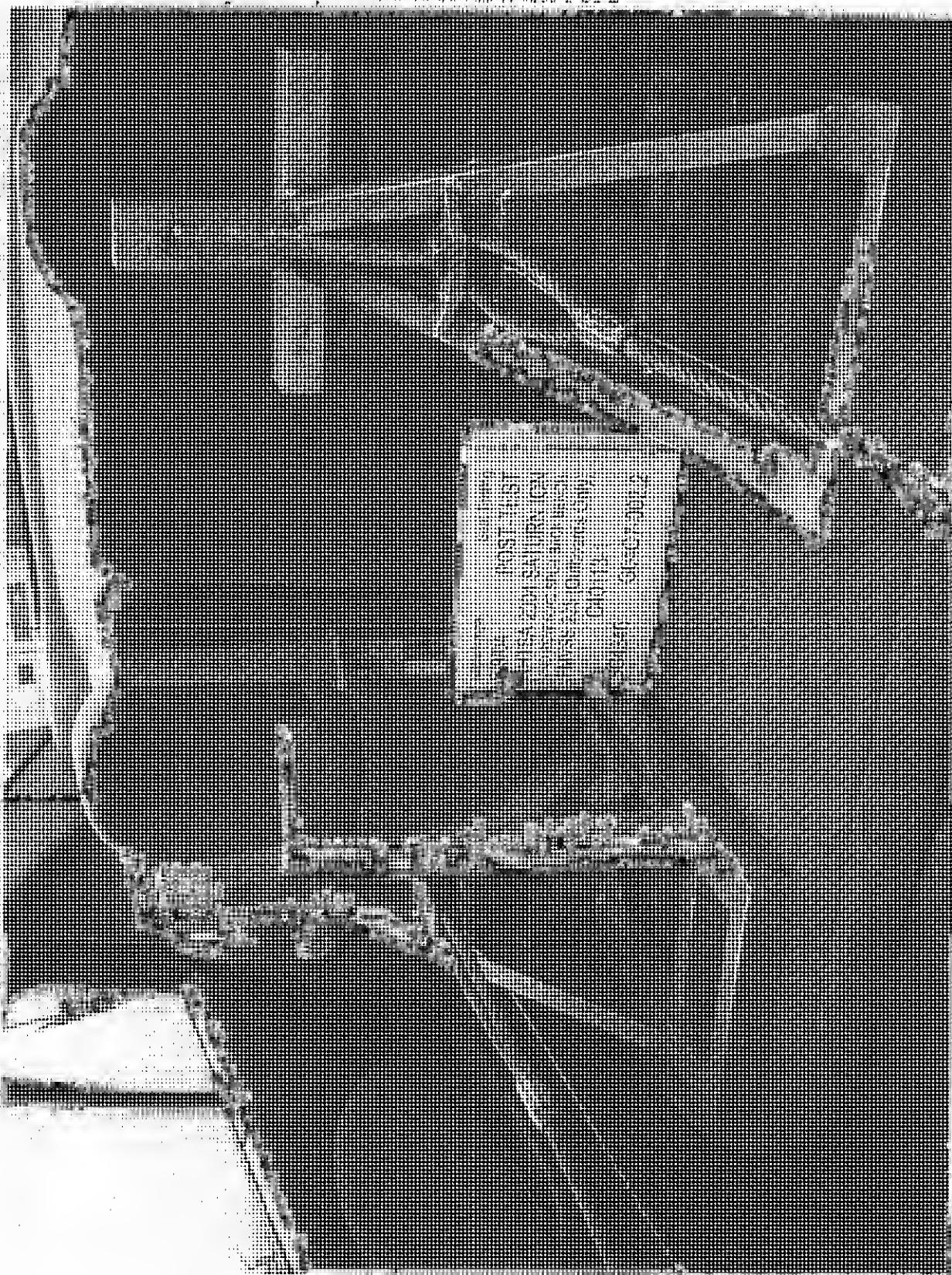
6.7.6 pre-test photo #6 of SFADII test 2 of 2



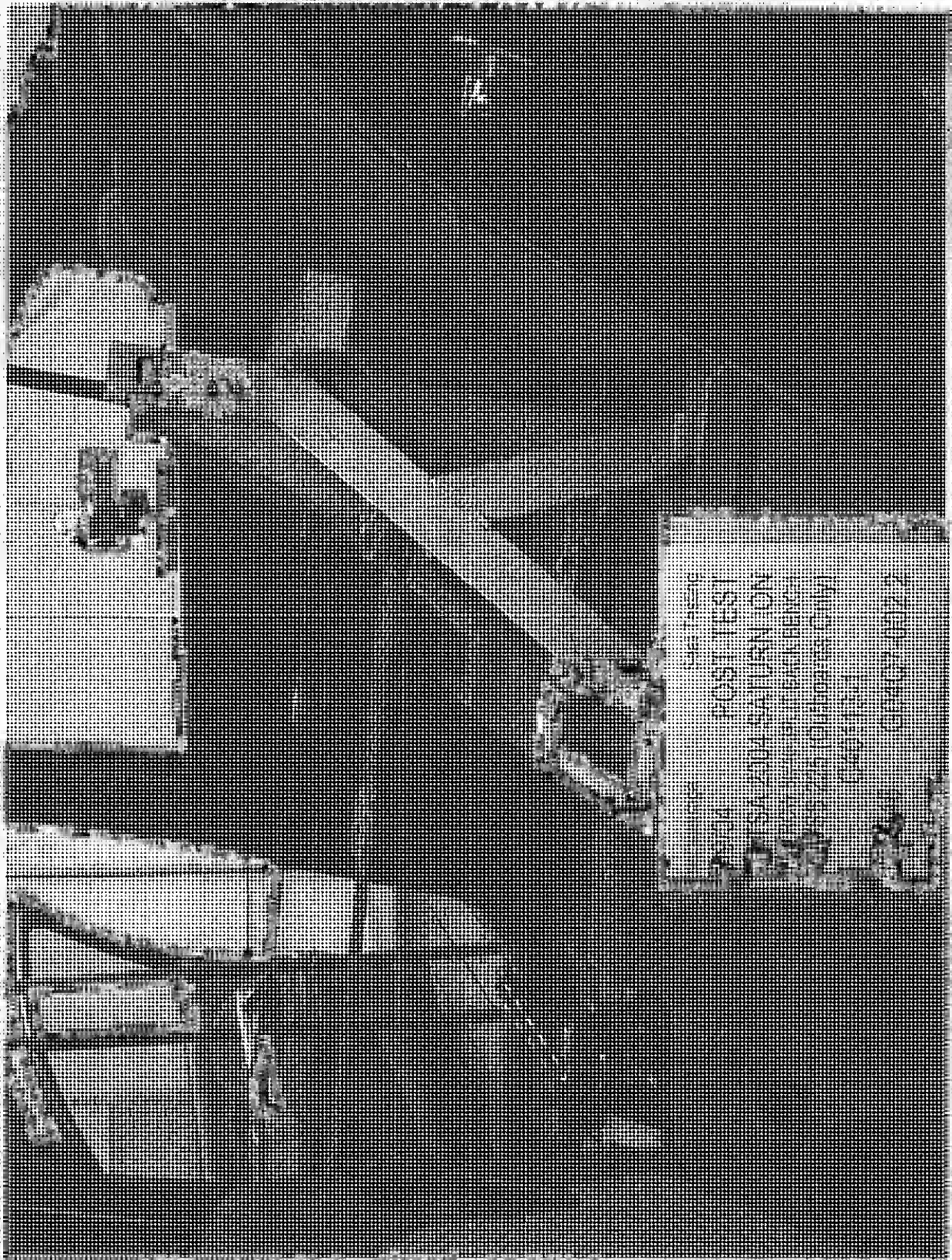
- 6.8 Post-test condition of each child restraint anchorage system
6.8.1 post-test photo #1



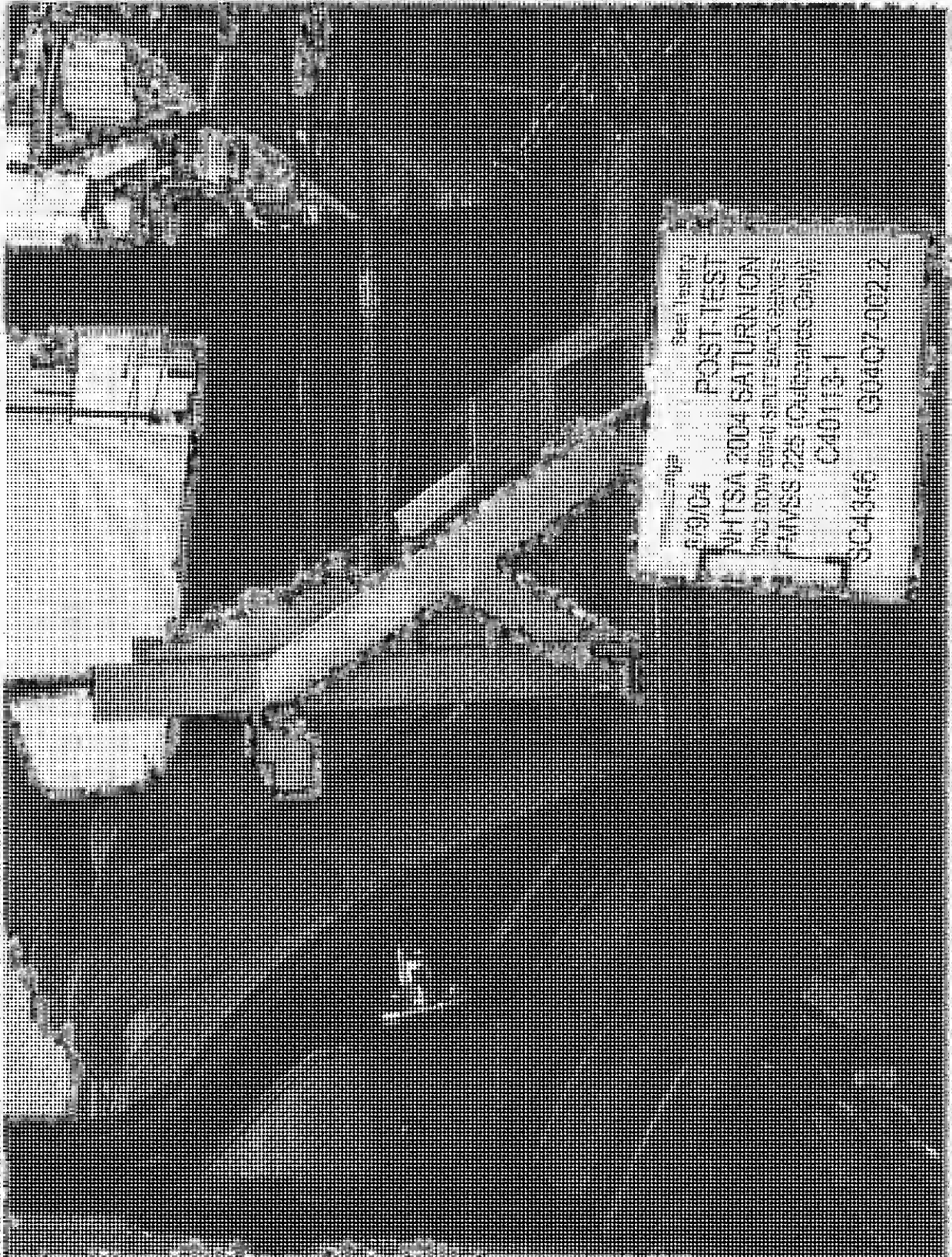
6.3.2 post-test photo #2 of SPADII test 1 of 2



6.8.3 - post-test photo #3 of SFADH test 1 of 2



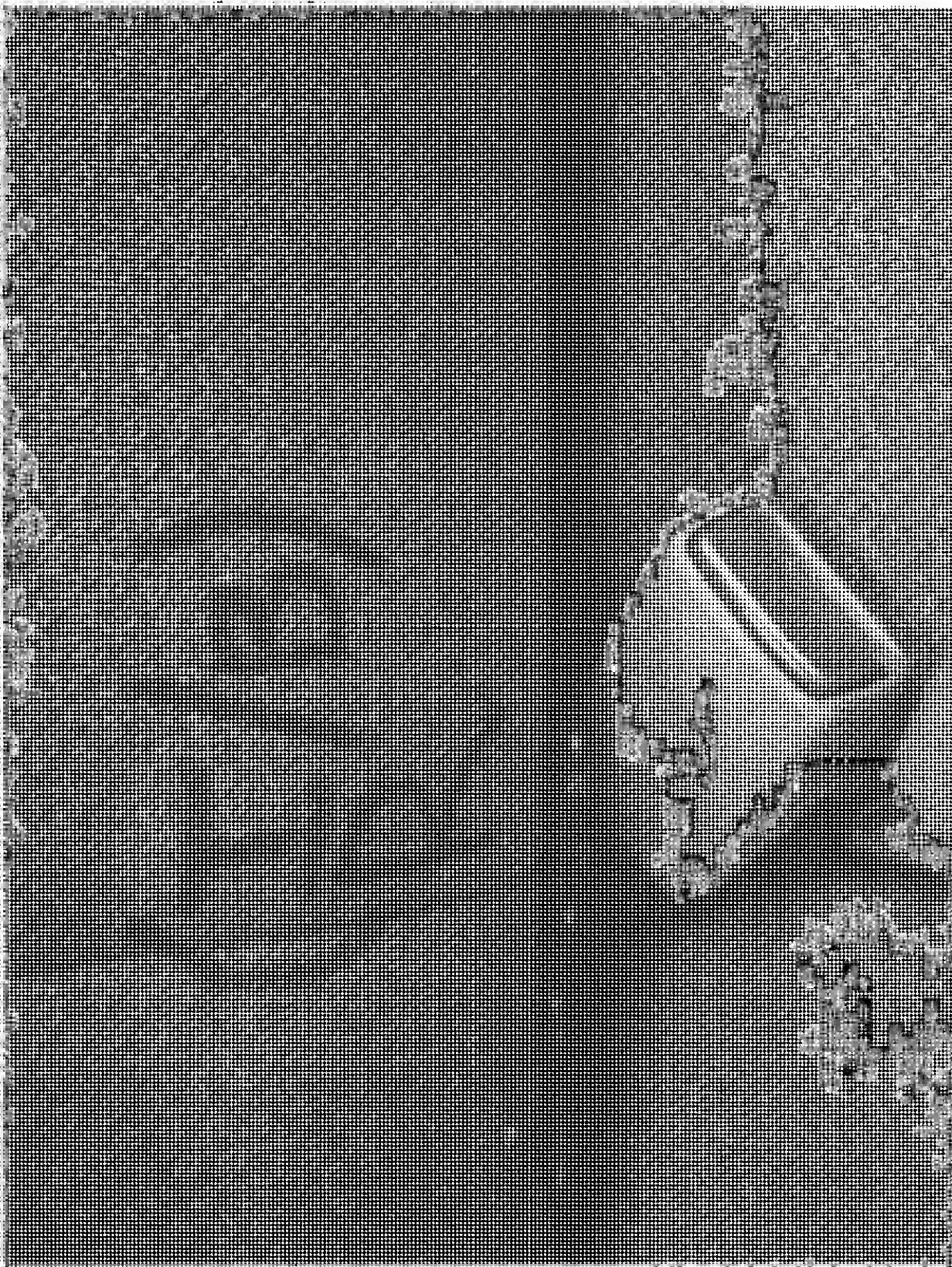
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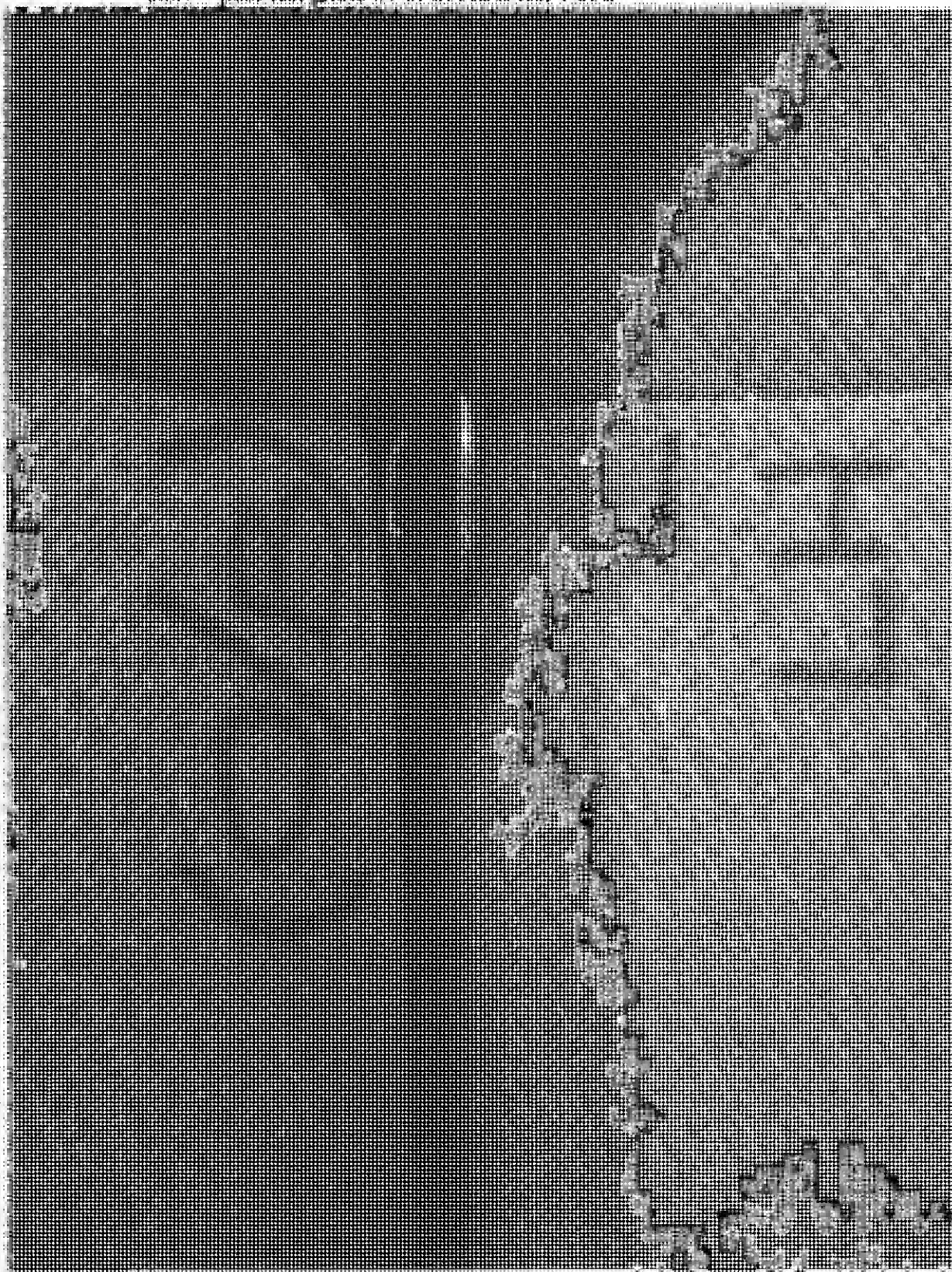
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6.3.6 post-test photo #6 of SPADII test 1 of 2



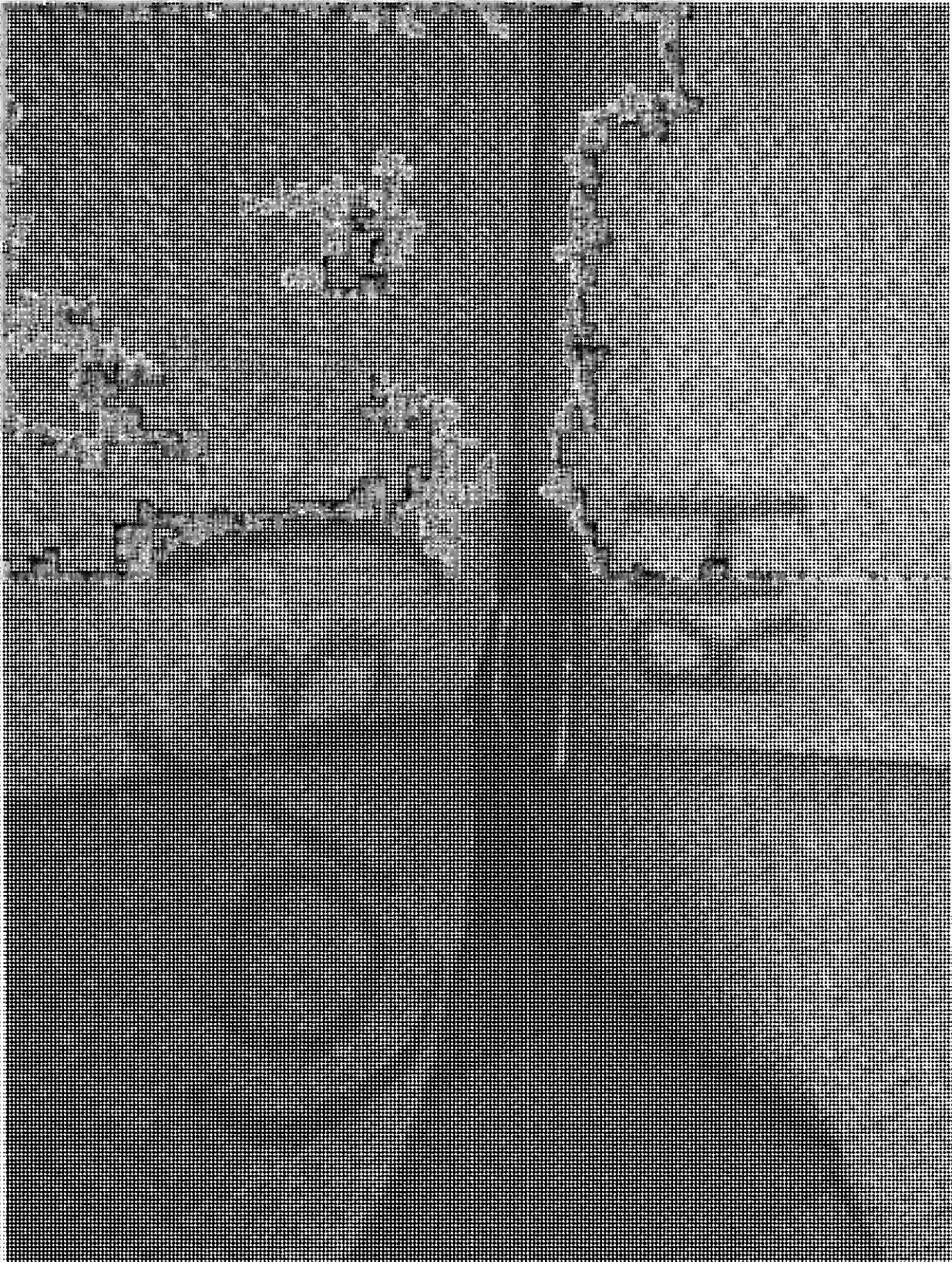
6.8.7 post-test photo #7 of SFADII test 1 of 2



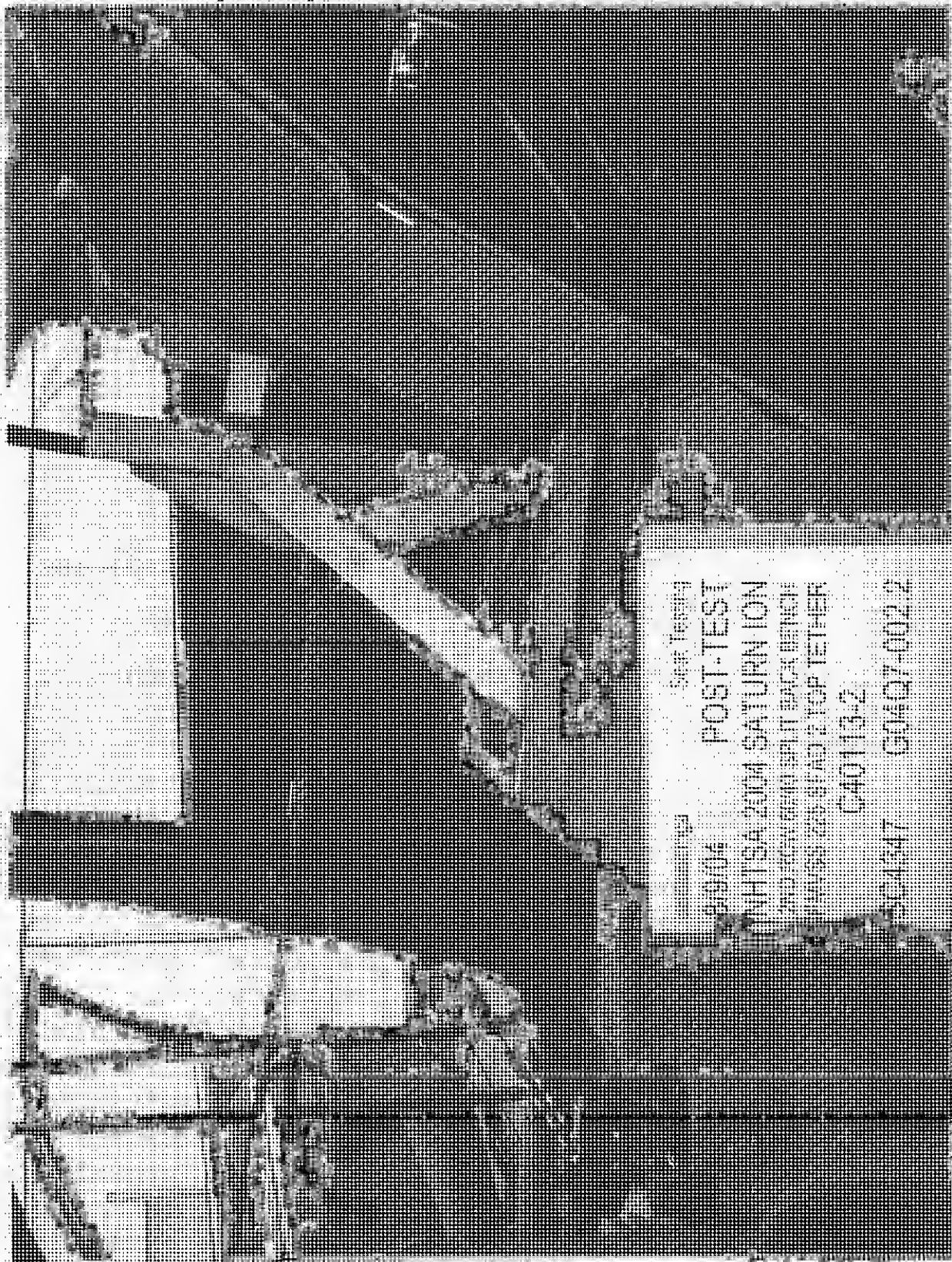
6.8.8 post-test photo #8 of SFADII test 1 of 2



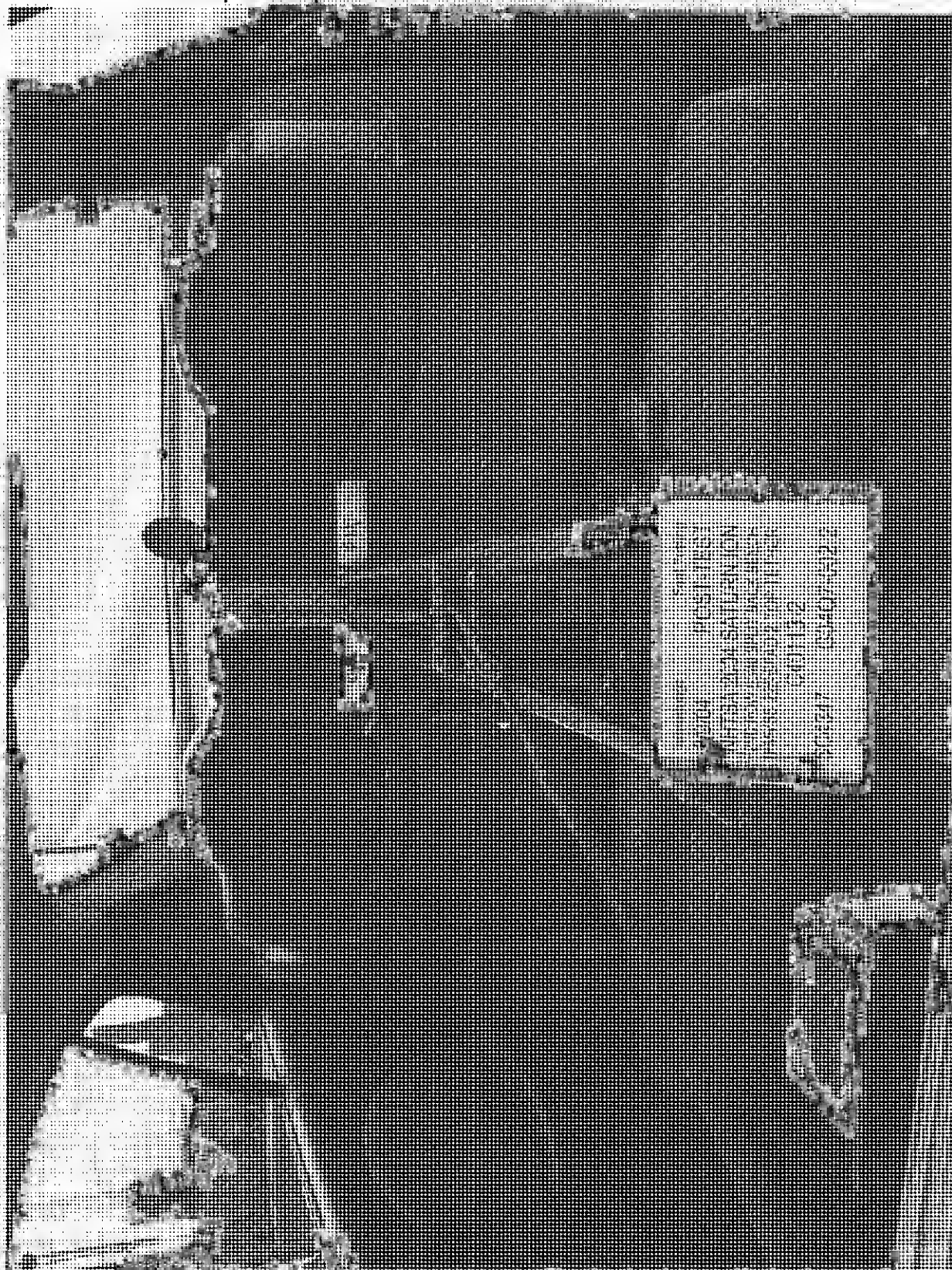
6.8.9 post-test photo #9 of SFADH test 1 of 2



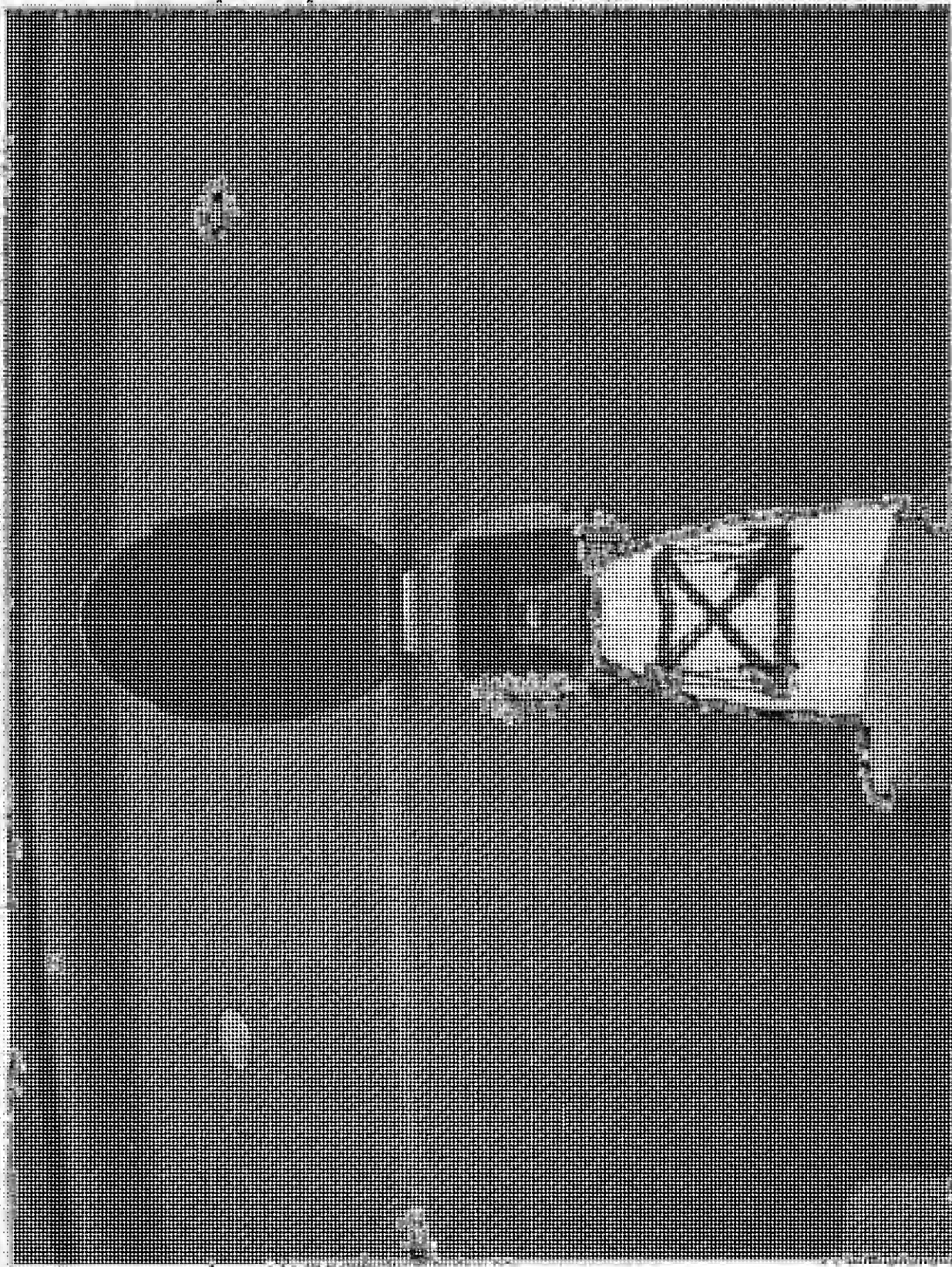
6.8.10 post-test photo #10 of SFADII test 2 of 2



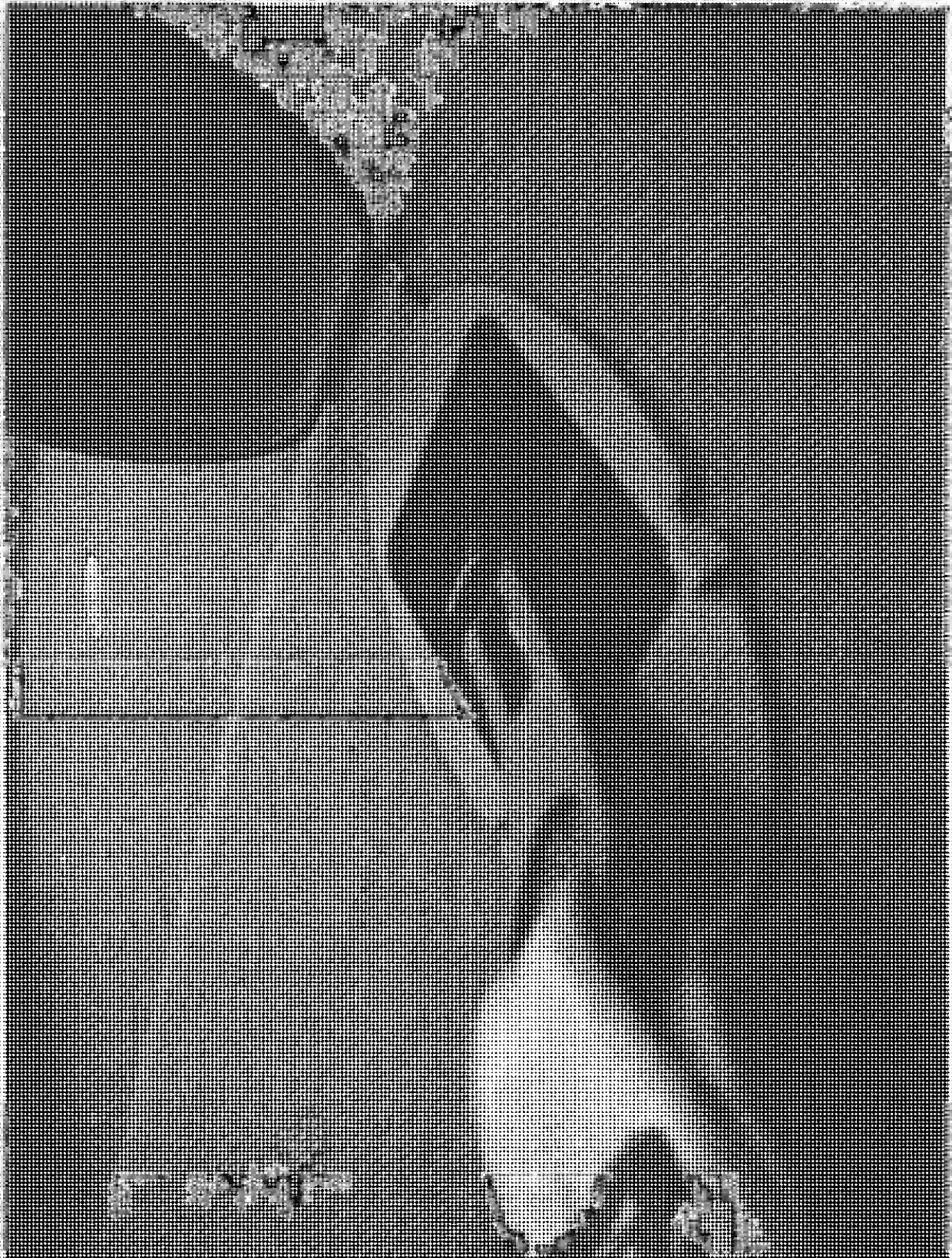
6.8.11 post-test photo #11 of SFADII test 2 of 2



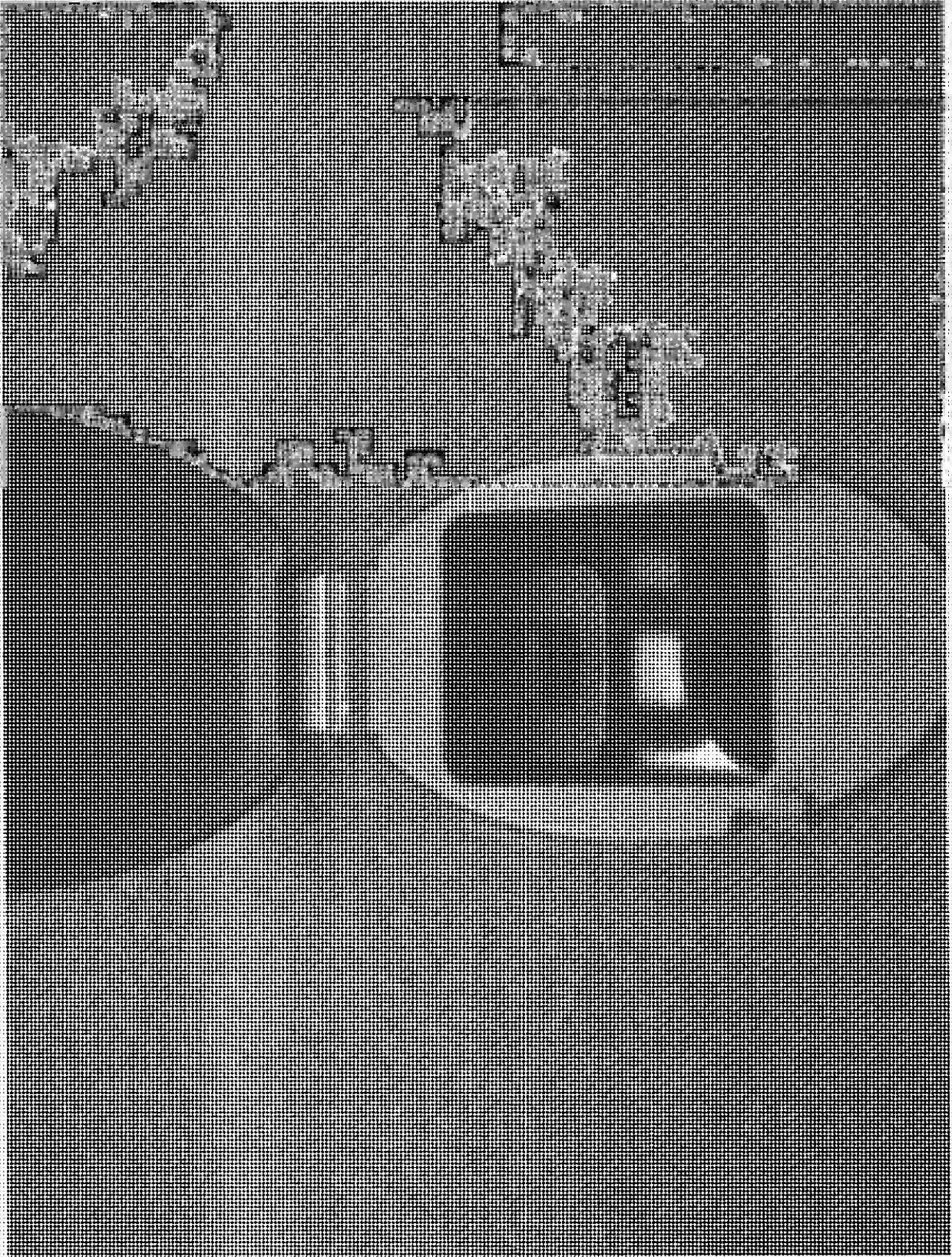
6.8.12 post-test photo #12 of SFADH test 2 of 2



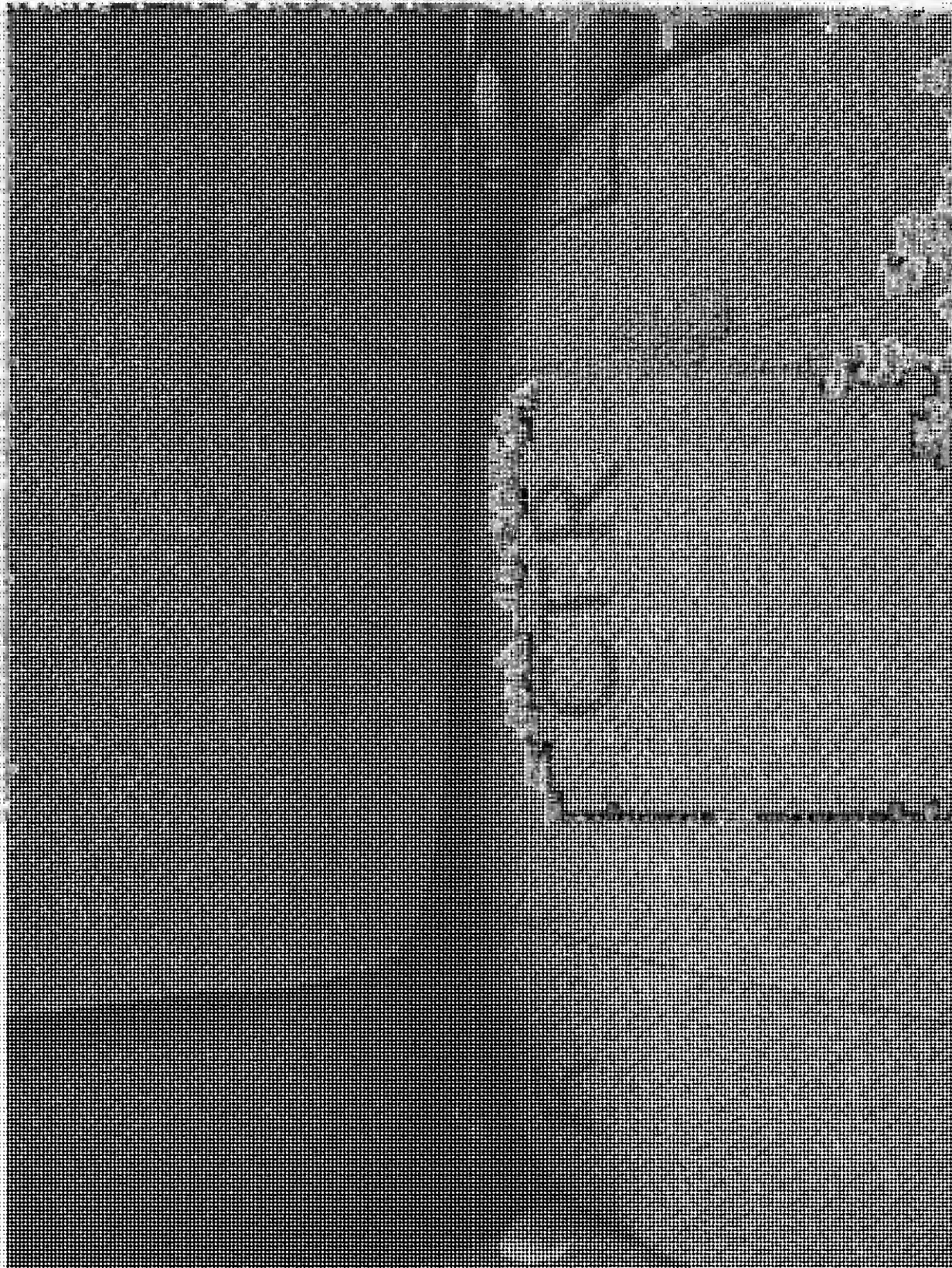
6.8.13 post-test photo #13 of SFADII test 2 of 2



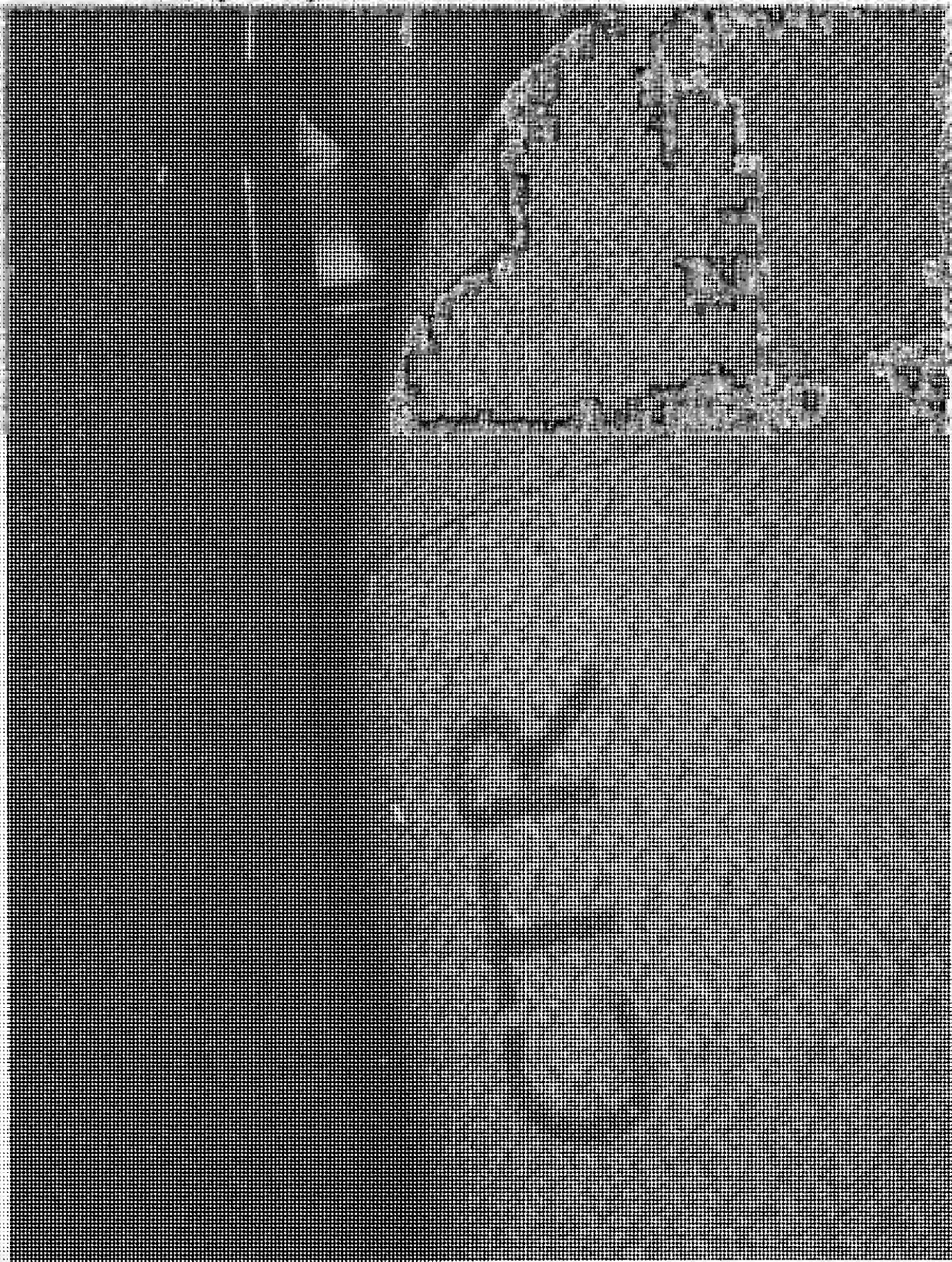
6.8.14 post-test photo #14 of SFADII test 2 of 2



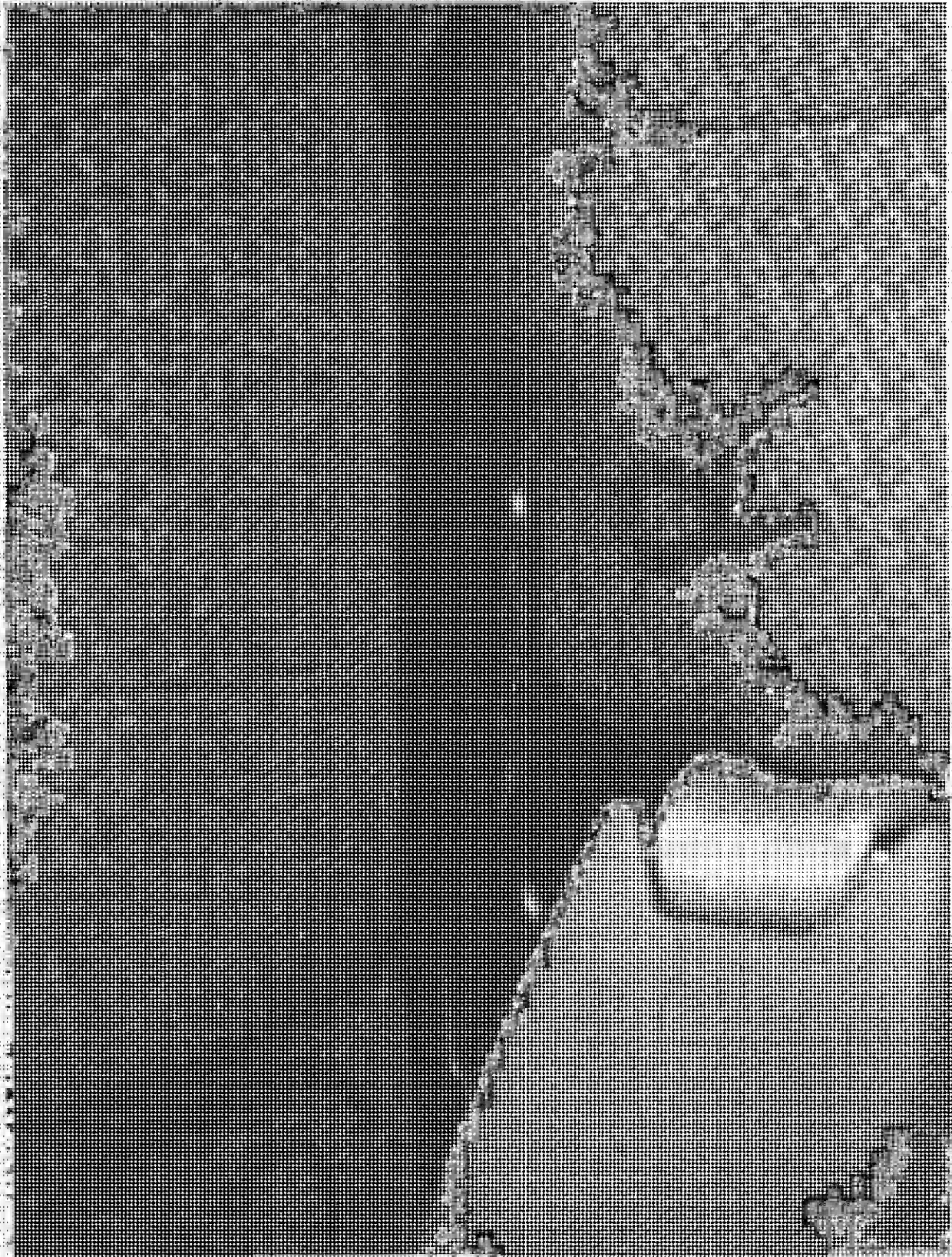
6.8.15 post-test photo #15 of SPADII test 2 of 2



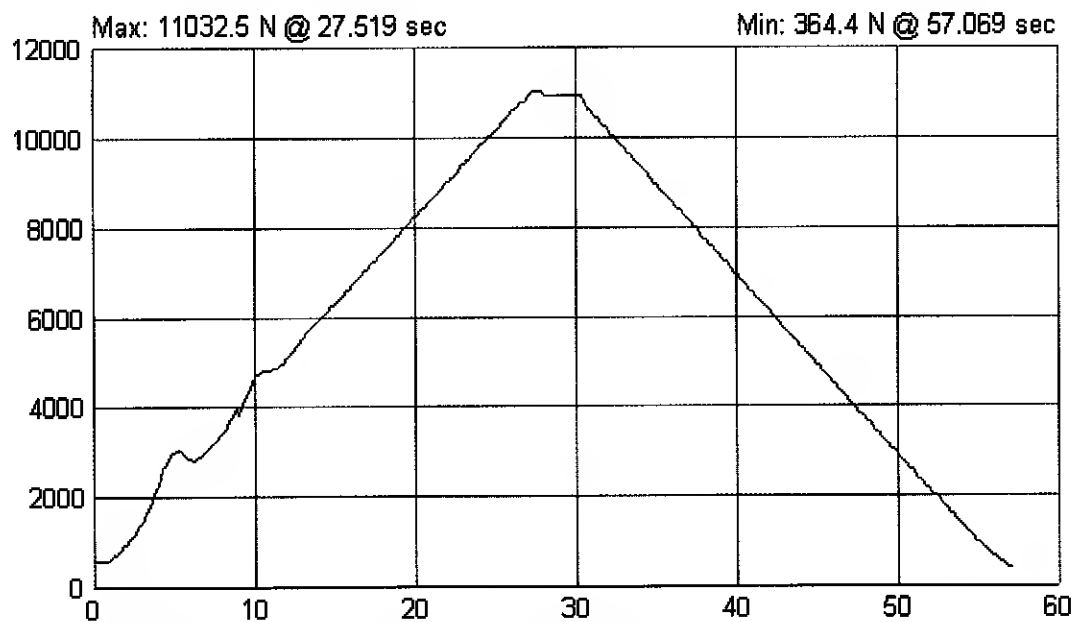
6.8.16 post-test photo #16 of SPADII test 2 of 2



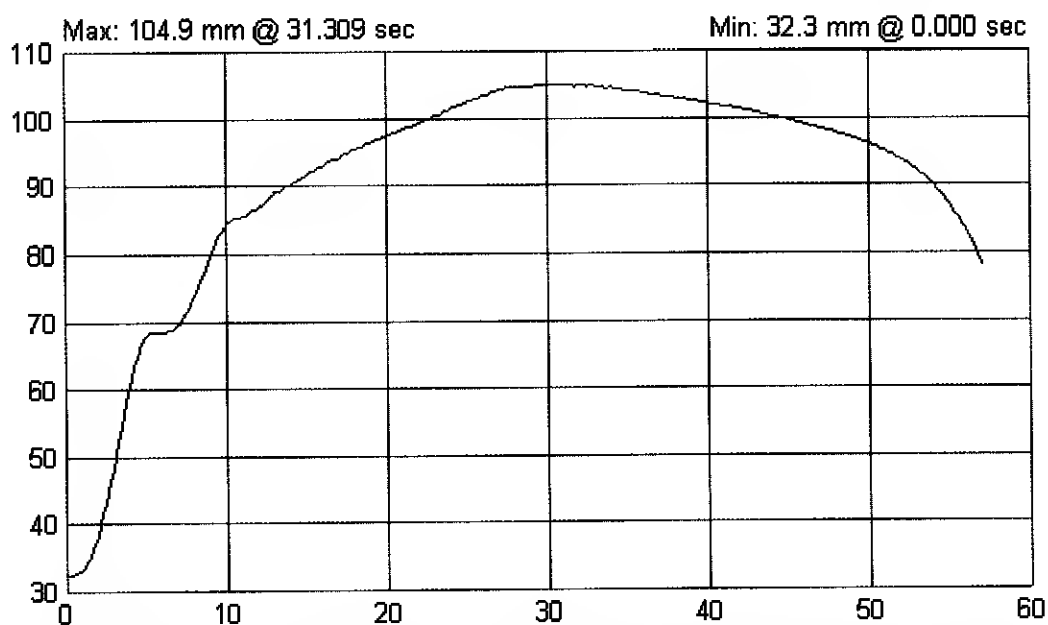
6.3.17 post-test photo #17 of SFADII test 2 of 2



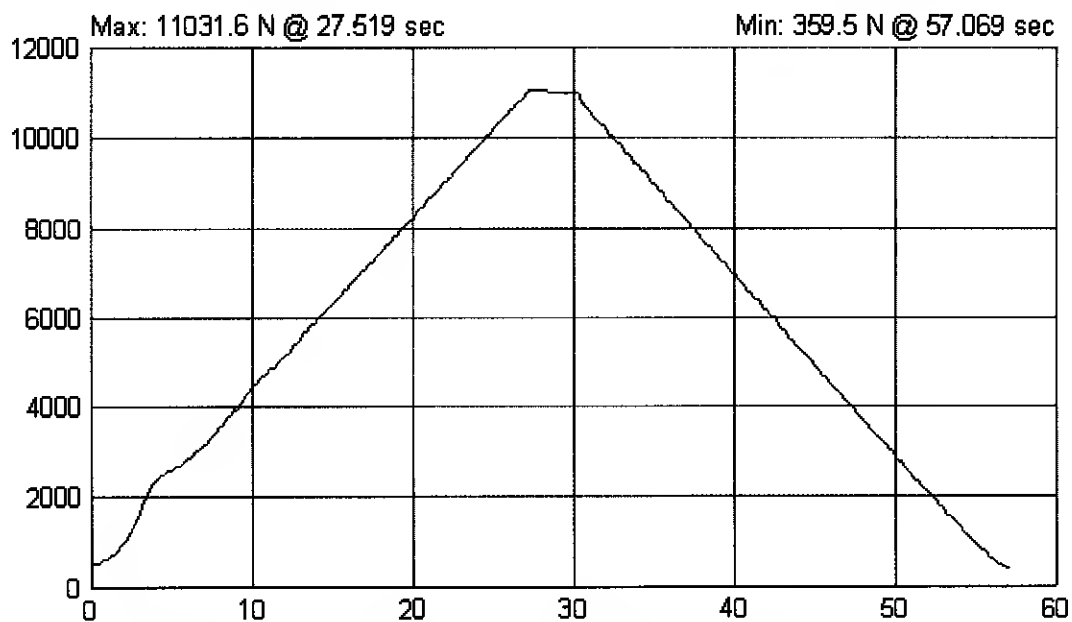
7.0 PLOTS



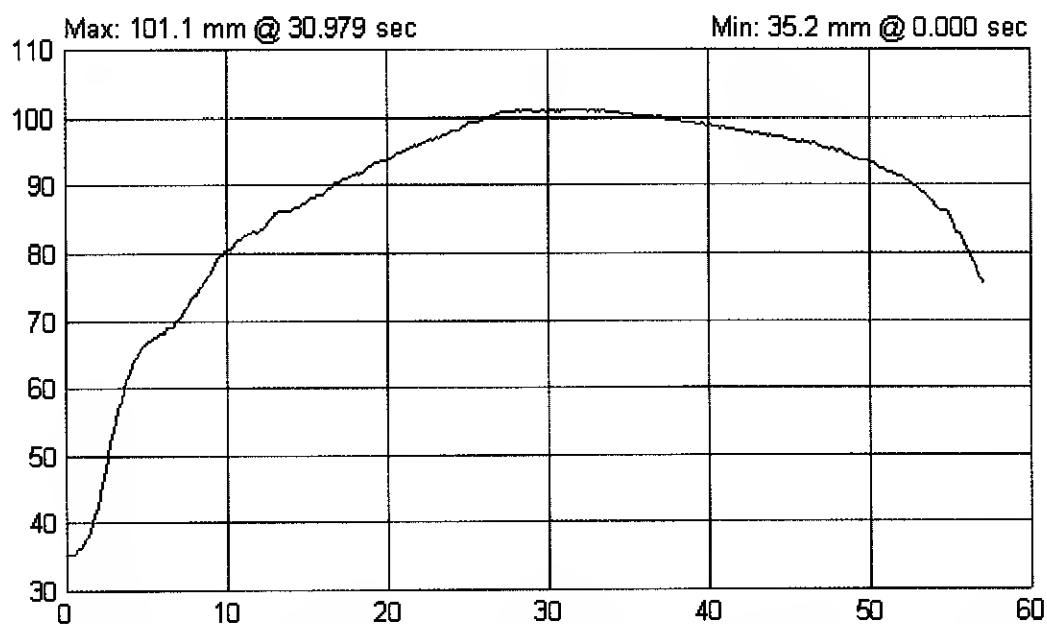
Run# SC4346: Lower Anchor Test (S9.4.1) -2R LH Load (N) vs. Time (sec)



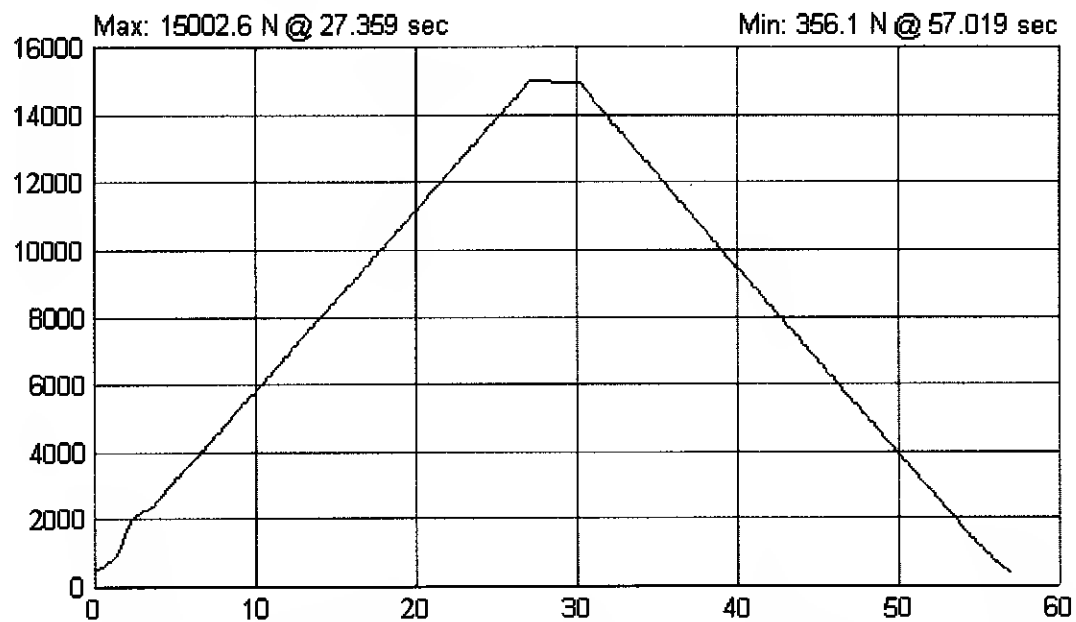
Run# SC4346: Lower Anchor Test (S9.4.1)-LH SFAD 2 X Disp. (mm) vs. Time (sec)



Run# SC4346: Lower Anchor Test (S9.4.1)-2R RH Load (N) vs. Time (sec)



Run# SC4346: Lower Anchor Test (S9.4.1)-RH SFAD 2 X Disp. (mm) vs. Time (sec)



Run# SC4347: Lower Anchor and Top Tether Test (S6.3.1)-2R CTR Load (N) vs. Time (sec)

8.0 REPORT of VEHICLE CONDITION

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

CONTRACT No.: DTNH22-02-D-11043

DATE: August 9, 2004

From: MGA Research Corporation, 446 Executive Drive, Troy, MI 48083

To: NHTSA, OVSC, NVS-221

The following vehicle has been subjected to compliance testing for FMVSS No. 208 and 225

The vehicle was inspected upon arrival at the laboratory for the test and found to contain all of the equipment listed below. All variances have been reported within 2 working days of vehicle arrival, by letter, to the NHTSA Industrial Property Manager (NAD0-30), with a copy to the OVSC COTR. The vehicle is again inspected, after the above test has been conducted, and all changes are noted below. The final condition of the vehicle is also noted in detail.

VEH. MOD YR/MAKE/MODEL/BODY: 2004 Saturn Ion

VEH. NHTSA NO.: C40113 VIN: 1G8AF52F54Z155463

COLOR: Red

ODOMETER READINGS: ARRIVAL 81 miles Date: 5/26/04

COMPLETION 81 miles Date: 8/09/04

PURCHASE PRICE: N/A DEALER'S NAME: Saturn of Dayton North

ENGINE DATA: 4 cylinder, 2.2 Liter

TRANSMISSION DATA: Automatic X Manual No. of Speeds 5

FINAL DRIVE DATA: Rear Drive X Front Drive 4 Wheel Drive

CHECK APPROPRIATE BOXES FOR VEHICLE EQUIPMENT:

TEST LABORATORY: MGA Research Corporation

OBSERVERS: Melanie Schick, Brad Reaume, Kenney Godfrey

<input checked="" type="checkbox"/>	Air Conditioning		Traction Control	<input checked="" type="checkbox"/>	Clock
	Tinted Glass		All Wheel Drive		Roof Rack
<input checked="" type="checkbox"/>	Power Steering	<input checked="" type="checkbox"/>	Speed Control	<input checked="" type="checkbox"/>	Console
	Power Windows	<input checked="" type="checkbox"/>	Rear Window Defroster	<input checked="" type="checkbox"/>	Driver Air Bag
	Power Door Locks		Sun Roof or T-Top	<input checked="" type="checkbox"/>	Passenger Air Bag
	Power Seat(s)	<input checked="" type="checkbox"/>	Tachometer	<input checked="" type="checkbox"/>	Front Disc Brakes
<input checked="" type="checkbox"/>	Power Brakes	<input checked="" type="checkbox"/>	Tilt Steering Wheel		Rear Disc Brakes
<input checked="" type="checkbox"/>	Antilock Brake System	<input checked="" type="checkbox"/>	AM/FM/Compact Disc		Other

REMARKS:

Salvage only.

Equipment that is no longer on the test vehicle as noted on previous pages:

All equipment inventoried and placed in vehicle.

Explanation for equipment removal:

Windshield and front seats were removed before conducting the testing.

Test Vehicle Condition:

Salvage only.

RECORDED BY: Melanie Schick, Kenney Godfrey

DATE: August 9, 2004

APPROVED BY: Brad Reaume

APPENDIX A
OWNERS MANUAL CHILD RESTRAINT SYSTEMS

Upon receipt of vehicle C40113 – 2004 Saturn Ion, no owner's manual was present.

APPENDIX B
MANUFACTURER'S DATA (OVSC FORM 1)

07/18/2004 10:03 FAX 202 338 3081

DOT OVSC 221

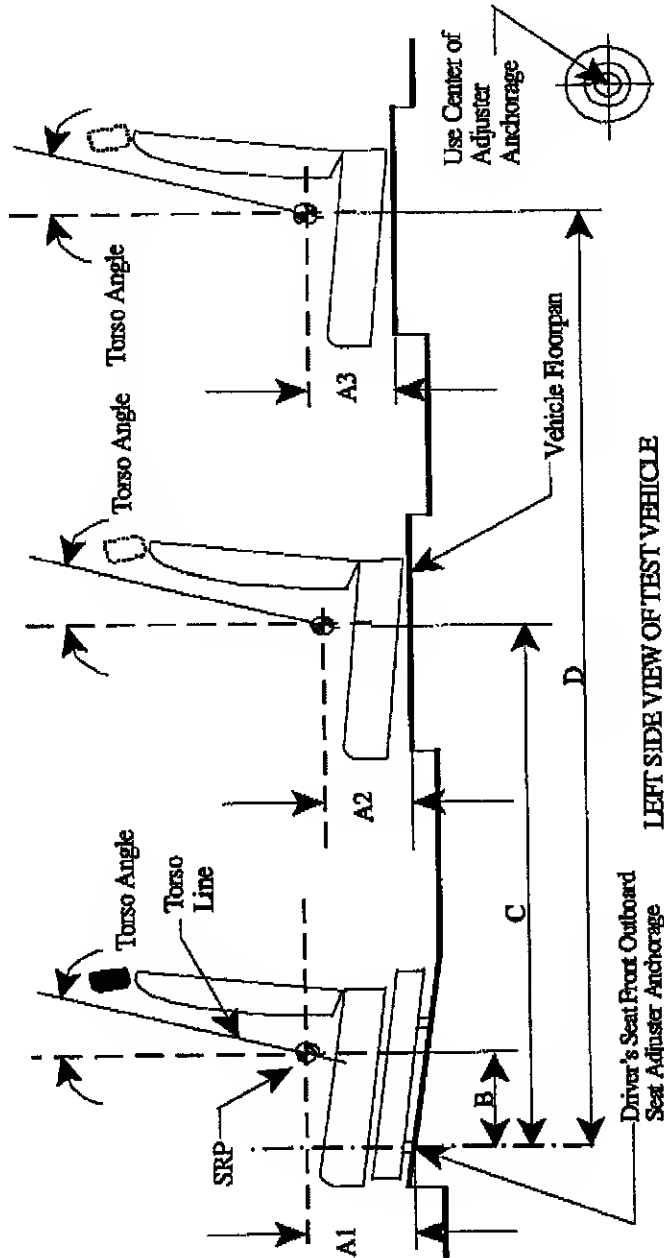
→ MGA TROY

002/012

SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 225

(All dimensions in mm¹)

Model Year: 2004; Make: Saturn; Model: Ion; Body Style: 4 Dr Sedan
Seat Style: Front row: Bucket; Second row: Bench; Third row: No third row



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Table 1. Seating Positions' and Torso Angles

	Left (Driver Side)	Center (if any)	Right
A1	(Driver) 180.1	N/A	(Front Passenger) 180.1
A2	221.1	229.1	221.1
A3	N/A		→
B	292.1	N/A	292.1
C	1071.1	1064.1	1071.1
D	N/A		→
Torso Angle (degree)	Front Row	N/A	24
	Second Row	28	28
	Third Row	N/A	→

Note: 1. All dimensions are in mm. If not, provide the unit used.
 A2 Dimension is from Driver seat fiducial point

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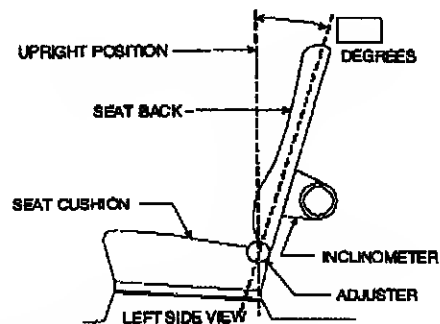
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NOMINAL DESIGN RIDING POSITION –

For adjustable driver, passenger, 2nd row and 3rd row seat backs, describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent if applicable. Indicate if applicable, how the detents are numbered (Is the first detent "0" or "1"?). Indicate if the seat back angle is measured with the dummy in the seat.



Seat back angle for driver's seat = ____ degrees

Measurement Instructions:

-Place inclinometer on the headrest post. Seat back angle at head restraint post should measure 9-9.5 degrees. Measure with ATD in seat.

Seat back angle for passenger's seat = ____ degrees

Measurement Instructions:

-Same as driver's seat.

Seat back angle for 2nd row seat = ____ degrees

Measurement Instructions:

-Second row seat back is fixed.

Seat back angle for 3rd row seat = ____ degrees

Measurement Instructions:

-No third row.

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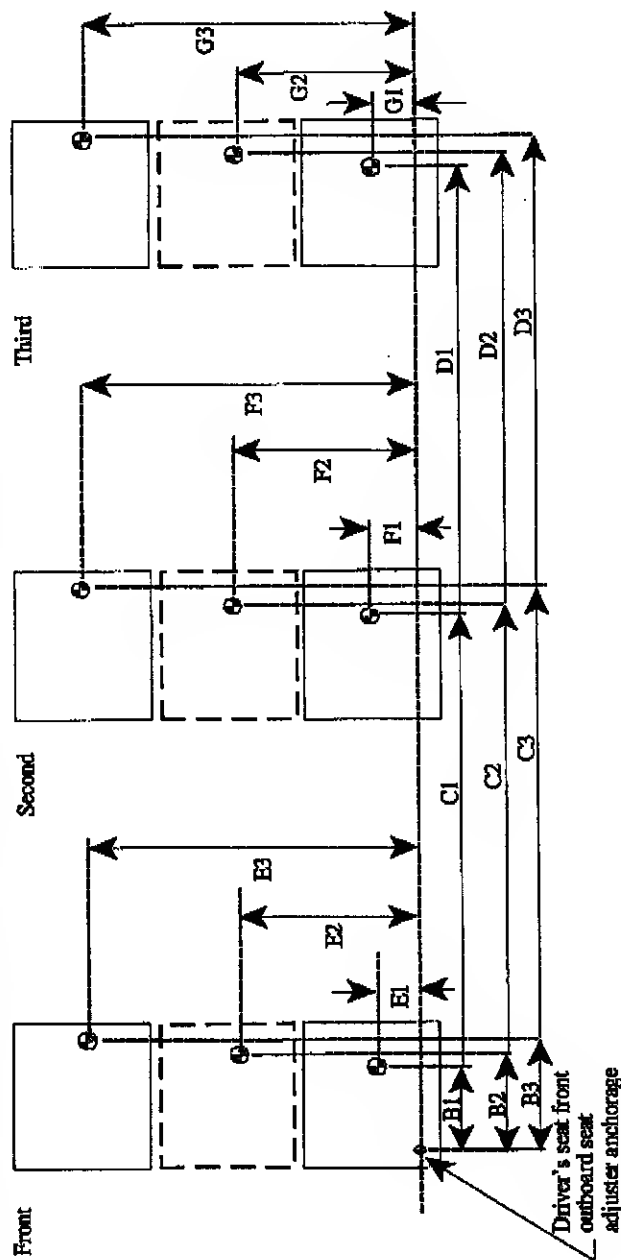
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006/012

SEATING REFERENCE POINT
 FOR FMVSS 225
 (All dimensions in mm)

(Note: The Child Restraint Anchorage Location determines the 225 SRP locations)

Model Year: 2004; Make: Saturn; Model: Ion; Body Style: 4 Dr Sedan
 Seat Style: Front row: Bench; Second row: Bench; Third row: N/A



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Table 2. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)		Distance from Driver's front outboard seat adjuster anchorage ¹
Front Row	B1	180.1
	E1	238.0
	B2	N/A
	E2	N/A
	B3	180.1
	E3	918.0
Second Row	C1	1071.1
	F1	248.0
	C2	1064.1
	F2	578.0
	C3	1071.1
	F3	908.0
Third Row	D1	N/A
	G1	
	D2	
	G2	
	D3	
	G3	

Note: 1. Use the center of anchorage.

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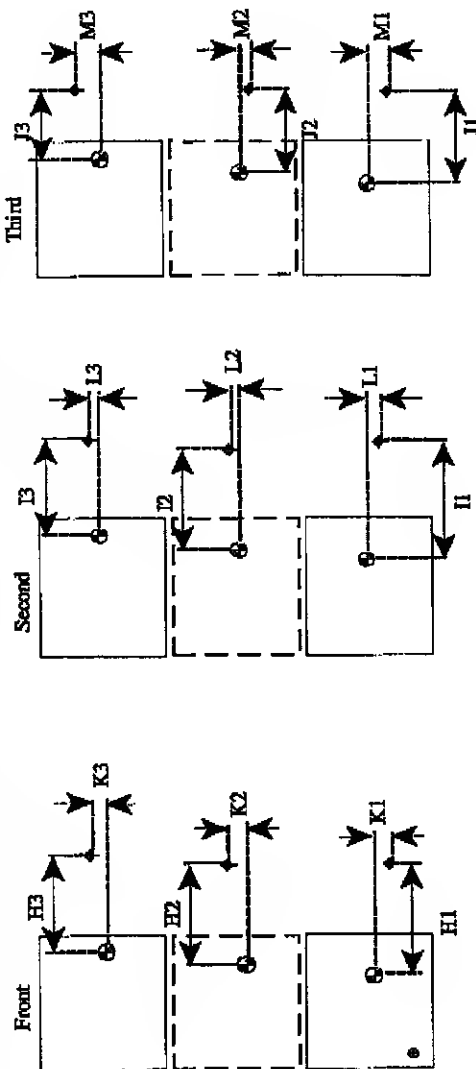
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**TETHER ANCHORAGE LOCATIONS
 FOR FMVSS 225**
 (All dimensions in mm)

Model Year: 2004; Make: Saturn; Model: 4 Dr Sedan
 Seat Style: Front row: Bucket; Second row: Bench; Third row: No third row



⊙: SRP

⊕: Tether anchorage

Note: 1. The location shall be measured at the center of anchorage.

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Table 3. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)	Distance from SRP	
Front Row	H1	N/A
	K1	
	H2	
	K2	
	H3	
	K3	
Second Row	I1	605.0
	L1	0.0
	I2	644.5
	L2	0.0
	I3	605.0
	L3	0.0
Third Row	J1	N/A
	M1	
	J2	
	M2	
	J3	
	M3	

Note: 1. Use the center of anchorage.

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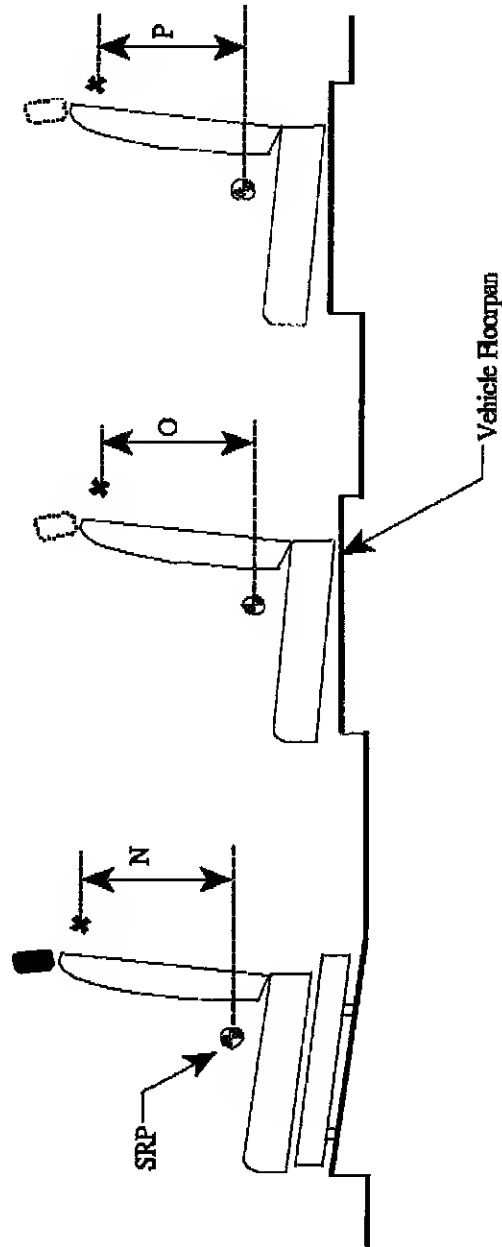
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0009/012

TETHER ANCHORAGE LOCATIONS - VERTICAL
FOR FMVSS 225

(All dimensions in mm)

Model Year: 2004; Make: Saturn; Model: Ion; Body Style: 4 Dr Sedan
Seat Style: Front row: Bucket; Second row: Bench; Third row: No third row



LEFT SIDE VIEW OF TEST VEHICLE

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010/012

Table 4. Vertical Dimension For The Tether Anchorage

Seating Row	Vertical Distance from Seating Reference Point
Front Row	N1 (Driver) N/A
	N2 (Center)
	N3 (Right)
Second Row	O1 (Left) 463.1
	O2 (Center) 455.1
	O3 (Right) 463.1
Third Row	P1 (Left) N/A
	P2 (Center)
	P3 (Right)

Note: 1. All dimensions are in mm. If not, provide the unit anchorage.

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Test Procedures Used for Compliance Tests

		Lower Anchorages			
For each seating location in each row record applicable FMVSS Section		FMVSS 225 Section(s)			
Block 1		Lower anchorage location certification method used (Enter applicable section used in block 1 of each position by circling A or B) <div style="text-align: center;"> <input checked="" type="checkbox"/> A) 9.2.1 or B) 15.1.2.2 </div>			
Block 2		Lower anchorage dimension (Enter applicable section used in block 2 by circling A or B) <div style="text-align: center;"> <input checked="" type="checkbox"/> A) 9.1.1 or B) 15.1.2.2 (also provide roll and yaw angles) </div> <div style="text-align: right;"> pitch _____° roll _____° yaw _____° </div>			
Block 3		Lower anchorage marking (Enter applicable section used in block 3 by circling A or B) <div style="text-align: center;"> <input checked="" type="checkbox"/> A) 9.5 or B) 15.4 </div>			
Block 4		Strength requirement (Enter applicable section used in block 4 by circling A or B) <div style="text-align: center;"> <input checked="" type="checkbox"/> A) Section 9 or B) Section 15 </div>			
Front	Driver	N/A			
	Center (if any) N/A	Block 1 A B	Block 2 A B Pitch _____° Roll _____° Yaw _____°	Block 3 A B	Block 4 A B
Second	Right (if any) N/A	Block 1 A B	Block 2 A B Pitch _____° Roll _____° Yaw _____°	Block 3 A B	Block 4 A B
	Left	Block 1 A B	Block 2 A B Pitch 15.8°, Roll 0.7°, Yaw 0.0°	Block 3 A B	Block 4 A B
	Center	Block 1 A B	Block 2 <input checked="" type="checkbox"/> A B Pitch 18.9°, Roll 0.5°, Yaw 0.0°	Block 3 <input checked="" type="checkbox"/> A B	Block 4 <input checked="" type="checkbox"/> A B
	Right (if any)	Block 1 A B	Block 2 <input checked="" type="checkbox"/> A B Pitch 16.2°, Roll 0.6°, Yaw 0.0°	Block 3 <input checked="" type="checkbox"/> A B	Block 4 <input checked="" type="checkbox"/> A B
Third	Left	Block 1 A B	Block 2 A B Pitch _____° Roll _____° Yaw _____°	Block 3 A B	Block 4 A B
	Center	Block 1 A B	Block 2 A B Pitch _____° Roll _____° Yaw _____°	Block 3 A B	Block 4 A B
	Right	Block 1 A B	Block 2 A B Pitch _____° Roll _____° Yaw _____°	Block 3 A B	Block 4 A B
Fourth	Left	Block 1 A B	Block 2 A B Pitch _____° Roll _____° Yaw _____°	Block 3 A B	Block 4 A B
	Center	Block 1 A B	Block 2 A B Pitch _____° Roll _____° Yaw _____°	Block 3 A B	Block 4 A B
	Right	Block 1 A B	Block 2 A B Pitch _____° Roll _____° Yaw _____°	Block 3 A B	Block 4 A B

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Test Procedures Used for Compliance Tests

Tether Anchorages

For each seating location in each row record applicable FMVSS Section		FMVSS Section(s) - Req.		
Block 1		Tether anchorage location certification method used (Enter applicable section used in block 1 by circling A, B, C, D, E or F) <input checked="" type="checkbox"/> A) 6.2.1 B) 6.2.1.1 C) 6.2.1.2 D) 6.2.2 E) 6.2.2.1 F) 6.2.2.2		
Block 2		Number or tether anchorages based upon the applicable section (Enter applicable section used in block 2 by circling A or B) <input checked="" type="checkbox"/> A) 4.4 B) 4.5		
Block 3		Tether anchorage strength requirement (Enter applicable section used in block 3 by circling A, B, or C) <input checked="" type="checkbox"/> A) 6.3.1 B) 6.3.2 C) 6.3.4		
Front	Driver	N/A		
	Center (if any)	Block 1 A B C D E F	Block 2 A B	Block 3 A B C
N/A	Right (if any)	Block 1 A B C D E F	Block 2 A B	Block 3 A B C
Second	Left	Block 1 <input checked="" type="checkbox"/> A B C D E F	Block 2 <input checked="" type="checkbox"/> A B	Block 3 <input checked="" type="checkbox"/> A B C
	Center	Block 1 <input checked="" type="checkbox"/> A B C D E F	Block 2 <input checked="" type="checkbox"/> A B	Block 3 <input checked="" type="checkbox"/> A B C
	Right	Block 1 <input checked="" type="checkbox"/> A B C D E F	Block 2 <input checked="" type="checkbox"/> A B	Block 3 <input checked="" type="checkbox"/> A B C
Third	Left	Block 1 A B C D E F	Block 2 A B	Block 3 A B C
	Center	Block 1 A B C D E F	Block 2 A B	Block 3 A B C
	Right	Block 1 A B C D E F	Block 2 A B	Block 3 A B C
Fourth	Left	Block 1 A B C D E F	Block 2 A B	Block 3 A B C
	Center	Block 1 A B C D E F	Block 2 A B	Block 3 A B C
	Right	Block 1 A B C D E F	Block 2 A B	Block 3 A B C